Printing Equipment

FEBRUARY 1947

SEYBOLD 40" HEAVY DUTY

PRECISION CUTTING AT ITS 40" BEST

SEYBOLD HAS DONE IT AGAIN. Here's the paper cutter the graphic arts industry has asked for. A 40" cutter that will produce fast, accurate cutting and trimming—day in, day out—month in, month out.

In the new Seybold Heavy-Duty 40" Paper Cutter there is power and precision aplenty. You'll not have to look twice to see that here is ruggedness that will stand up under all, and more, than would ordinarily be expected from a 40-inch cutter.

And, upon closer examination, you'll find features never before offered on a paper cutter of this size. You'll find sturdy, double-end-pull construction. You'll be surprised at the faster, snappier cutting action. You'll see why knives require sharpening less frequently; why cuts are cleaner and more accurate; why adjustments are made more quickly; why there is more productive time.

Take a tip. For precision cutting at its 40" best, it will pay you to study, point for point, these sound operator and operating advantages of the Seybold Heavy-Duty 40" before buying your next machine.

Outstanding Reasons Why The Seybold Heavy-Duty 40" Is In A Class By Itself

★

Materially longer knife life.

'A snappy, slicing cutting action.

Continuous shear, with just the right shear angle.

Double-end-pull construction.

Low-maintenance, metal clamp friction unit.

Selective clamp-pressure control.

Heavy-duty, multiple-disc clutch.

Two-hand, throw-in starting device.

Fully-automatic, interlocking safety devices.

Quick-acting knife adjustment.

Floodlighted table and gauges.

HARRIS-SEYBOLD

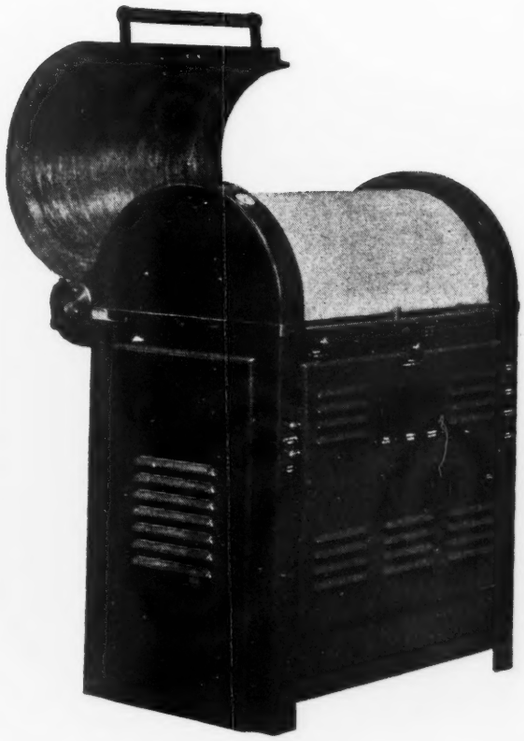
Harris-Seybold Company • General Sales Offices, Cleveland 5, Ohio

HARRIS PRESSES • SEYBOLD CUTTERS • OTHER GRAPHIC ARTS EQUIPMENT

Backed up by the world's largest and most highly-skilled, factory-trained paper cutter service organization.

BETTER MATS • BETTER PRINTING

STA-HI



MASTER
FORMER

- *Better mats mean better plates, and naturally, better printing.*
- *The Sta-Hi Master Former makes possible all three of these most desirable results.*
- *Hundreds of progressive daily newspapers and commercial printing plants are now getting such results with Sta-Hi Formers.*
- *Vacuum-forming and electric-baking of mats, control of vacuum, heat and shrinkage —all are found only in the Sta-Hi Former.*

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Use the Bearings Your Engineers Prefer-

TIMKEN TAPERED ROLLER BEARINGS

Timken Roller Bearings are old tried and trusted friends to thousands of designing engineers in many industries. They have earned this confidence through a combination of scientific design; precision manufacture; and Timken Alloy Steel, plus more than 48 years of continuous engineering development and experience.

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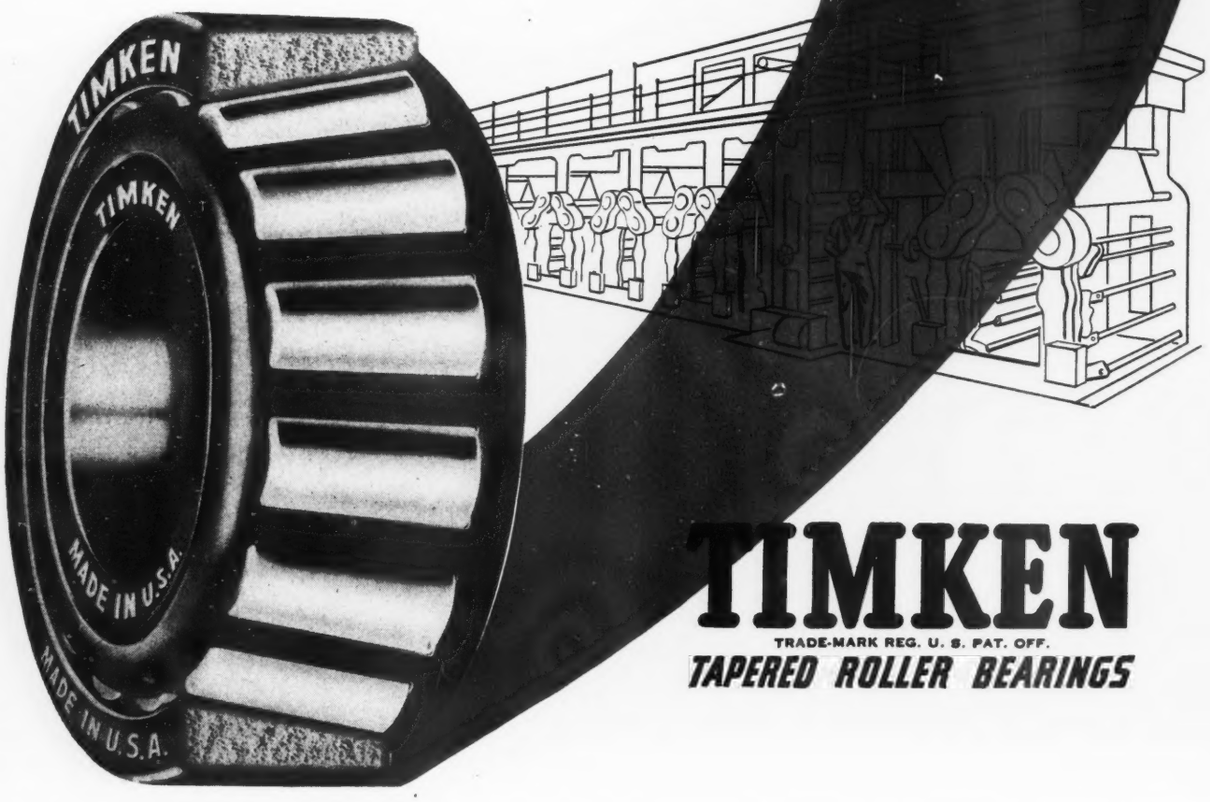

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

WHY
this great demand for more Miller Automatics?

Why have nearly 70% of Miller Major users ordered more Miller Majors? There are many favorable factors, but it remained for a shrewd superintendent of an exclusively Miller pressroom in the east, simply to hold up three fingers and point off (1) ***speed*** (2) ***quality*** and (3) ***steady operation.*** Abnormal postwar conditions had not confused him—or turned his attention from these three essentials of profitable printing.

Speed, quality and dependability are three indispensable factors which have established Miller Automatics as the most profitable producers for the greatest number of America's commercial pressrooms. Investigate Miller Automatics if you are interested in the three basic profit factors which give so many Miller owners reason to install more and more Miller Automatics.

(1) Speed

2 to 1 Harmonic bed motion provides short bed stroke and smooth reduced speed bed reversal; no air plungers. Deeply ribbed, rigid but lightweight alloy bed. Compact, integral construction of bed, feeder and delivery on one foundation; easy to watch, reach and adjust. As much as 33⅓% higher operating speeds than similar presses.

(2) Quality

"Ink mill" rotary type inker evenly and thoroughly agitates and distributes ink. Positive control feeder holds sheets constantly under control for hair-line register. Heavily ribbed cylinder and journals are one rigid casting. Massive one-piece wayframe supports heavy impression. 3-speed slow-down delivery stacks sheets evenly, within open view.

(3) Steady Operation

All-steel gearing. Roller, ball and graphited bronze bearings. Nitralloy, magnesium, silicate and aluminum alloys liberally and scientifically utilized for durability. Automatic oiling for adequate lubrication. Silent chain drive, no stretching or slipping. Automatic trips, "ball-up" detector, "safety release" inker, reduce press stops and lost time.

MILLER PRINTING MACHINERY CO.
PITTSBURGH 12, PENNSYLVANIA

"miller-ize and modernize"

SAM'L BINGHAM'S SON MFG. CO.

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PRINTERS' ROLLERS

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RUBBER
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FABRIC-COVERED
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ROLLERS

OFFSET
COMPOSITION
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PRINTERS ROLLERS

COMPOSITION: SYNTHETIC RUBBER;
NATURAL RUBBER; VULCANIZED OIL

FOR EVERY PRINTING PURPOSE

WE ARE NOW MAKING COMPOSITION ROLLERS

FOR WINTER USE

SHIP YOUR OLD ROLLERS

TO FACTORY MOST CONVENIENT TO YOU

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CHICAGO 5	DETROIT 10	KANSAS CITY 6	PITTSBURGH 3
CLEVELAND 14	HOUSTON 6	MINNEAPOLIS 15	ST. LOUIS 2
DALLAS 1	INDIANAPOLIS 2	NASHVILLE 3	SPRINGFIELD, O.

1847 - 1947

ONE HUNDRED YEARS OF ROLLER MAKING

PRINTING EQUIPMENT *Engineer*

Volume 73 Number 5

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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QUESTION:

WHAT IS "KORKER" CONTROLLED RESILIENCE?

ANSWER:

THE UNVARYING POWER TO SPRING BACK

TO ITS FORMER SHAPE AND POSITION

That's the answer in a nutshell. Korker Printing Press Blankets have greater resiliency because they have many times more air cells per square inch. And this resiliency is "controlled" because the air cells are "locked in" between the layers of improved fabric. It is this scientifically "controlled resiliency" that helps maintain impression settings longer, prints solids stronger, and screens with less plate wear.

No matter what you print or on what type of equipment it is printed, it will pay you to investigate "KORKER" . . . your best buy in printing press blankets.

OTHER TINGUE BROWN PRODUCTS { Cushion Cork • Tingucork • Foundation Wool Felt • Improved Satisfaction Gold Tympan Cloth • Top • Combino

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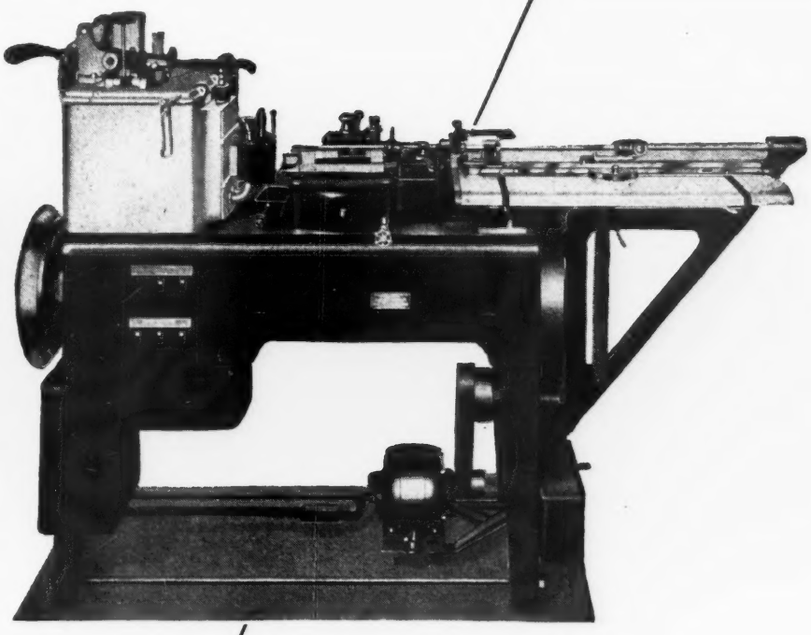
CANADIAN SALES AGENTS
ROSS WHITEHEAD & CO., LTD.
MONTREAL, CANADA

The ELROD



The ELROD will simplify your strip material production, providing plenty of leads, slugs, rule and base material for all composing room requirements . . . Work moves promptly and efficiently when your printers have at hand all needed spacing and base material to get the job up quickly and accurately, and always-new Elrod border and rule improves the appearance of the finished work . . . One Elrod produces high-quality material from 1-point to 36-points in thickness, the size range providing base for cuts, electros or shell-casts, and metal furniture for general composing room use . . . The Elrod requires only minimum operator attention, and is exceedingly low in first cost and maintenance . . . Many printing plants have eliminated all strip material worries with an Elrod installation. Ask us for complete information about Elrod operating economies in your plant.

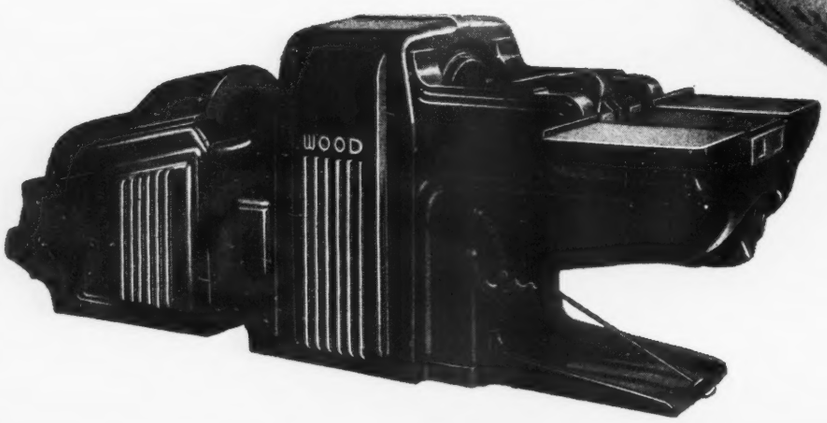
LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue, Chicago 14, Illinois

Wood
NEWSPAPER
MACHINERY

TYPICAL WOOD AUTOPLATE EQUIPMENT NOW IN FULL PRODUCTION

TENSIONPLATE
AUTOSHAVER



WOOD NEWSPAPER MACHINERY CORPORATION PLAINFIELD, N. J. • NEW YORK OFFICE: 501 FIFTH AVENUE, NEW YORK 17, N. Y.

THE NEW POST WAR

Glider

TRIMOSAW

MODEL G-4

"THE SAW WITH THE BALL BEARING TABLE"

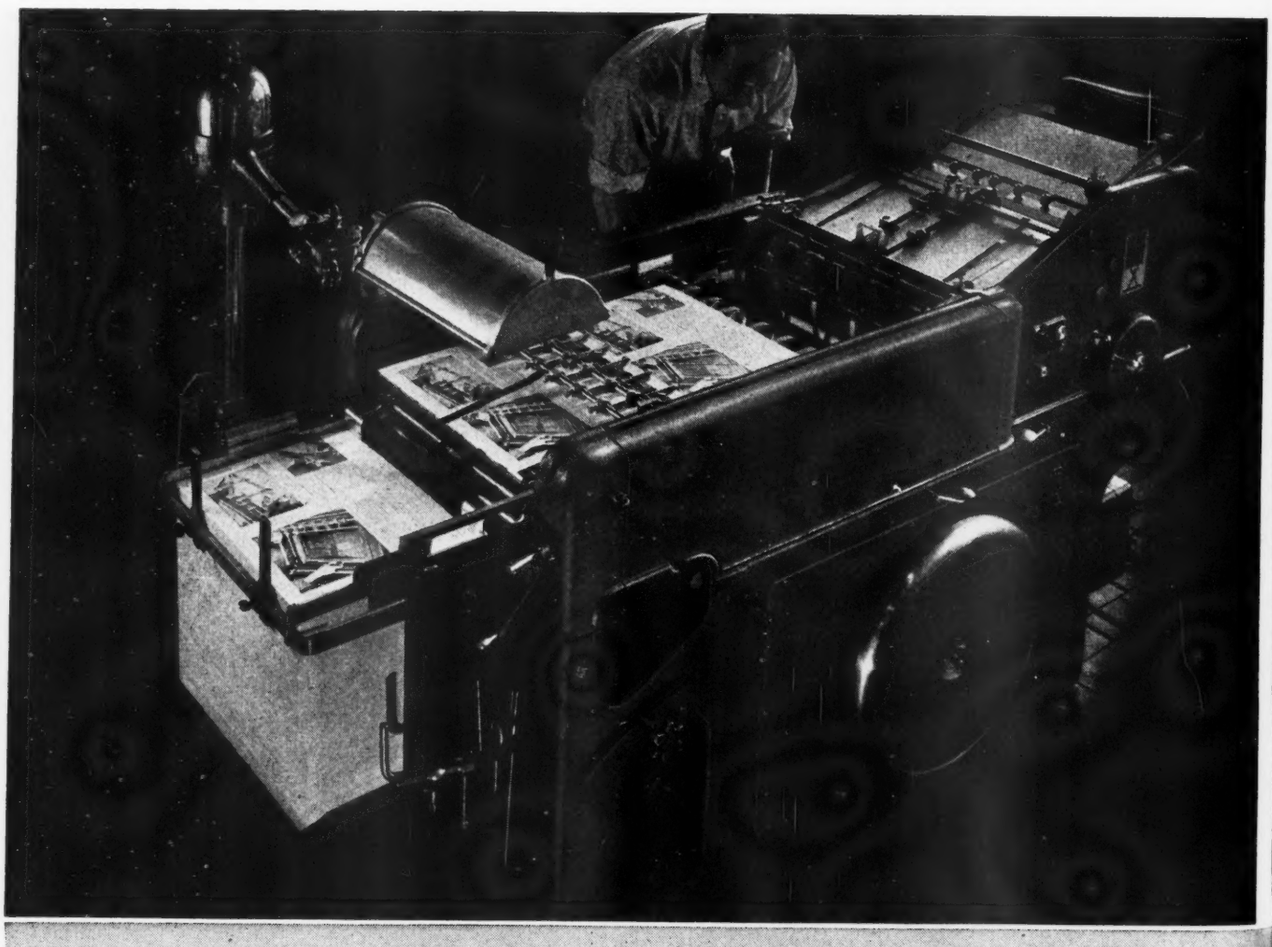
Hammond Machinery Builders INC.

1604 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN

Greatest Little Cylinder

New SMART STYLING CONVENIENCES

MANY EXCLUSIVE FEATURES



The New ATF LITTLE GIANT

HIGH SPEED AND QUALITY AT LOW OPERATING COST

Cylinder-press performance and quality at no more than automatic platen-press operating expense. The ATF Little Giant requires little more floor space (34 x 82 inches) than a platen press, is simple in design, with a minimum of adjustments, and can be mastered quickly.

Speedier Lock-up

Entire form is exposed, and 12-inch Hi-Speed quoin (furnished as standard equipment) saves time and assures accuracy when locking up or making changes.

Cylinder Press Ink Distribution

Fountain can be set quickly, giving ample coverage. Flow controlled by 18 screws with points covered by abutment pieces to prevent wearing blade and provide even setting of fountain. Exceptionally large ink plate. Two-inch rollers.

Hairline Register

Cylinder and driving gears are in constant mesh. Side guides can be changed instantly from left to right. Micrometer adjustment of side guide while press is running.

Three-speed Pulley

Provides 2,500, 3,500, and 4,000 imp. per hour from single, constant-speed motor with starter and overload protection. Convenient external lever makes shifting V-belt from one speed to another a few seconds operation.

Easy to Make Ready

Cylinder is easily accessible. Special cylinder blanket permits quick get-away on every job.

Automatic Double Roll

A simple turn of a plunger, while press is running, instantly switches to automatic double rolling for heavy solids and large halftones.

Extension Jogger Delivery

Sheets are jogged and large pile delivery lowers both automatically. These two features are usually found only in large cylinder presses.

Alemite Lubrication

Press tracks are lubricated automatically from oil reservoir. Positive lubrication of all main bearings by Alemite system.

Quick-set Feeder

No overhead guide bars. Front guides are fixed, side guides adjustable for small or large sheets. Feed bar has six suckers. Feeder handles any stock from onion-skin to 4-ply card. Full box of envelopes held by a simple attachment.

Convenient Sheet Sizes

The ATF Little Giant takes sheets up to 12 x 18 inches (prints 8½ x 11 two up *plus* bleed).

Besides these principal features, there are many more improvements designed to increase operating efficiency and step up profits. Ask your ATF Salesman for complete details including demonstration press sheet and commercial samples.

Built-in Overhead Gas Heater
and
ATF Diafram Non-offset Gun
(OPTIONAL EQUIPMENT)

LITTLE GIANT
ATF

AMERICAN TYPE FOUNDERS
An ATF Associate
200 Elmora Avenue, Elizabeth B, New Jersey
BRANCHES IN PRINCIPAL CITIES

Prevent Offsetting!

GIVE YOUR CUSTOMERS A CLEAN JOB *with*

W-R SPRAYER GUN WAX

- Can be used on all colors successively. No sandpaper effect.
- Harmless to press and operators. Safe to use on food labels and wrappers.
- Makes a fine, light spray or mist that is almost invisible.
- Absolutely colorless. Will not affect the most delicate tints or colors

W-R PROCESS COLOR WAX

- Mixes with any lithograph, offset or letter-press inks —colors or black.
- Assures perfect lifting and blending of colors. Simplifies printing of solids.
- Prevents offsetting, mottling, picking and sticking. Keeps inks from crystalizing.
- Indispensable for transparent colors and process work.

Packed as follows:

W-R SPRAYER GUN WAX	W-R PROCESS COLOR WAX
1 gallon cans	1 pound cans
5 gallon cans	5 pound cans
55 gallon drums	25 pound cans

See your dealer or write for trial shipment today!

BEHIND THE HEADLINES
GAS MAKES THE NEWS

IN WASHINGTON, News Capital of the World, Four Important Daily Newspapers Cover the National and International Scene.

Readers in the District of Columbia, Maryland, Virginia, and the surrounding areas depend on those four dailies for their morning and evening headlines, highlights, news, and views.

And, in Washington—as in thousands of American cities—GAS makes the headlines, highlights, news, and views. In the mechanical departments of these four newspapers modern Gas stereotype equipment and Gas-fired type-metal pots perform their production-line functions day after day.

Modern publishing calls for real production-line methods and modern production equipment. GAS and dependable Gas Equipment render essential service in all types of publishing operations requiring heat—operations such as ink-drying, paper-curing, type-metal melting, electrotyping. Your local Gas Company will assist in selection of proper equipment for your requirements.

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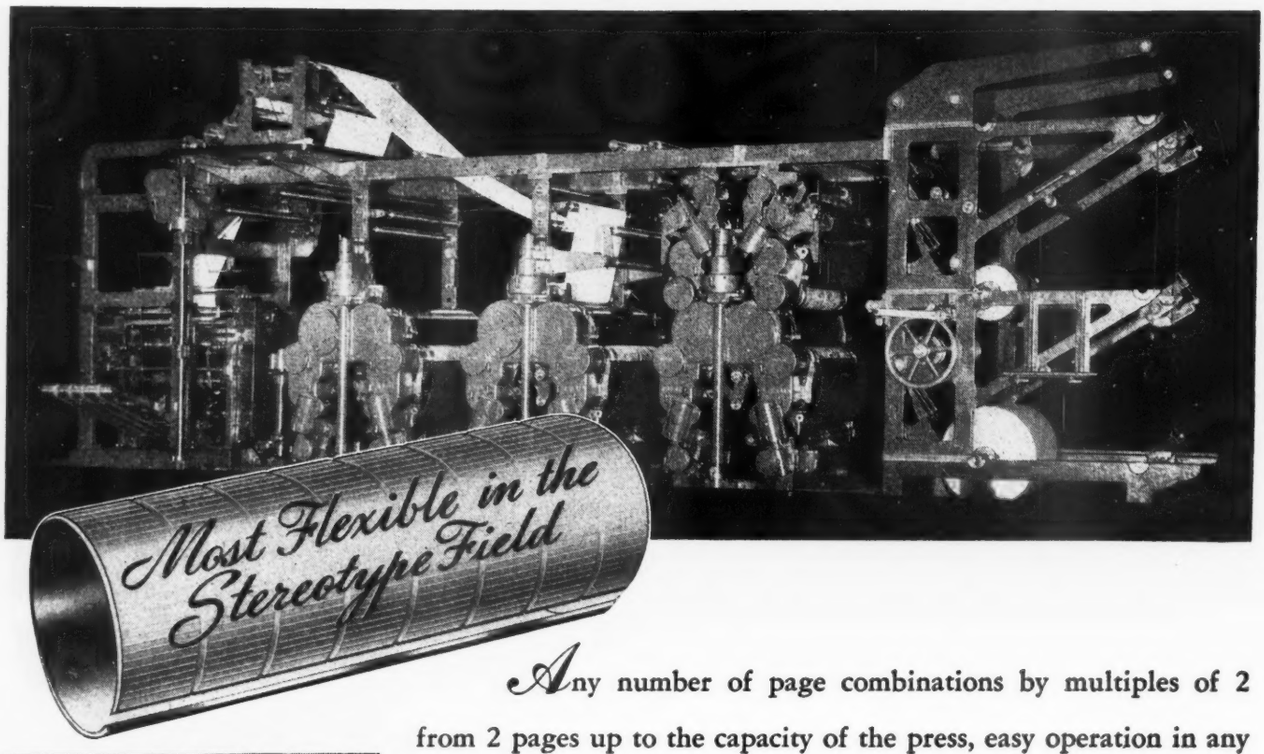
MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING

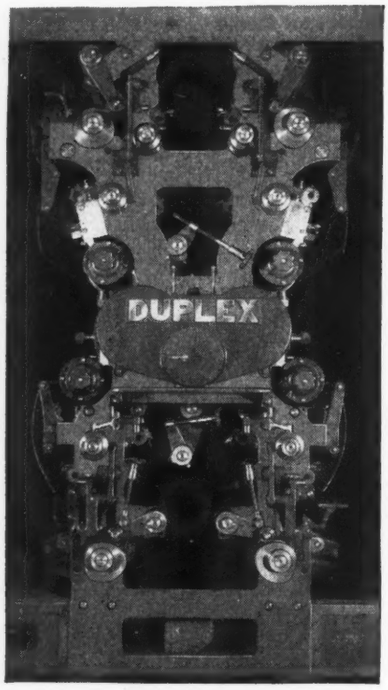
DUPLEX

UNITUBULAR PRESS



Any number of page combinations by multiples of 2 from 2 pages up to the capacity of the press, easy operation in any unit and folder combination, and lower cost at greater production are some of the many advantages of the Duplex Unitubular Press.

Unitubulars are tailored to fit available space of any individual newspaper plant. Flexibility is the major thought in the design of the Pioneering Duplex line of presses that ranges from Flat Bed to large Metropolitan Semi-Cylindrical Units. Regardless of your problem, the Duplex Engineers are prepared to help you solve it. Behind them lies over 60 years of press development and experience, during which time Duplex originated and patented every standard type of newspaper press in use today.



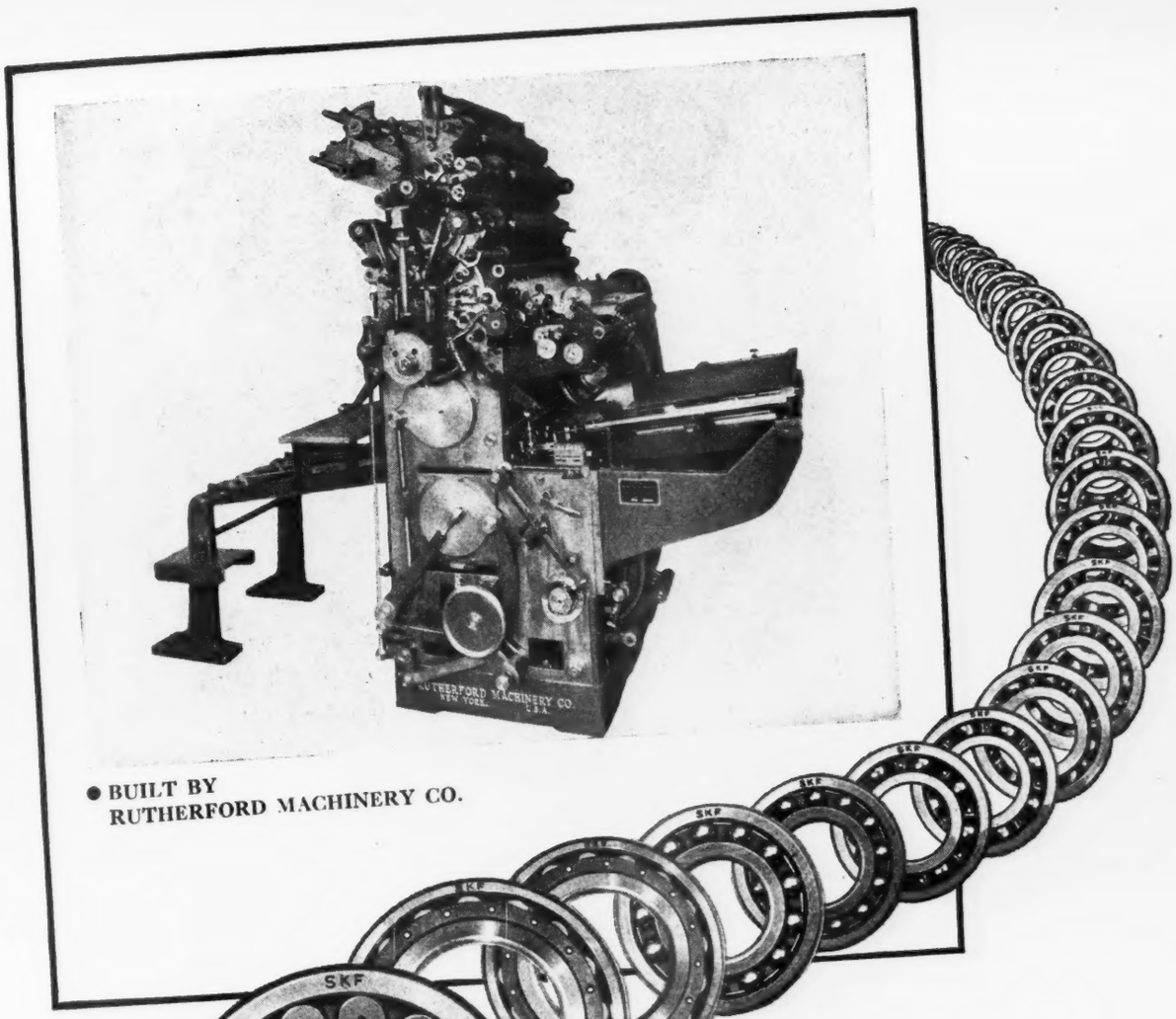
Plating side of a Unitubular Unit equipped with double color cylinder unit

THE DUPLEX PRINTING PRESS COMPANY

Builders of the World's Finest Newspaper Presses

BATTLE CREEK, MICHIGAN

77 W. Washinton St., Chicago — 500 5th Ave., New York



● BUILT BY
RUTHERFORD MACHINERY CO.

SKF
Puts the RIGHT BEARING in the RIGHT PLACE

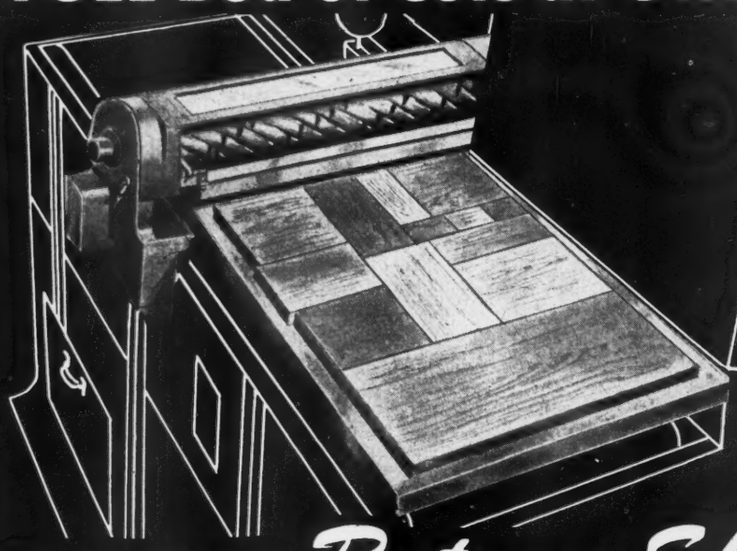
FOR PRINTING ON METAL OR PAPER

Presses that print on stainless steel, brass, nickel, aluminum and other sheet metals have one thing in common with presses that print on paper and cloth. Their vital rotating parts are SKF-equipped. For example: SKF Spherical Roller Bearings are on the main cylinders of this Rutherford Junior Metal Decorating Press that's used in the manufacture of etched name plates, dials, charts, etc. Their rolling alignment, high load carrying capacity, and equalized load distribution are combined with speed, smooth-running, accuracy, dependability, endurance and economy. These advantages can be added to the other advantages of *your* machines merely by using SKF Bearings. 6170

SKF INDUSTRIES, INC., PHILA. 32, PA.

Plane a FULL Bed of Cuts at ONE TIME

WITH THE PLANE-O-PLATE *Rotary Shaver*



Look at these PLANE-O-PLATE Advantages

FAST. Helical cutter shaves faster with less motor effort and less strain on machine. Speeds plant production, improves printing quality.

ACCURATE. Shaves plates to precision measurements. Easy-to-read micrometer permits accurate setting of cutter. Bed runs in smoothly ground ways with take-up gibs to allow for wear.

VERSATILE. Constructed for maximum utility, PLANE-O-PLATE handles all types of flatwork—newspaper page size or smaller—from .055″ to .940″ thick.

SIMPLE. Fill bed with plates. Set to proper micrometer reading with simple turn of elevator wheel. Lower chip-catcher and push a button. PLANE-O-PLATE does the rest.

SAFE. Special bars guard cutter head; eliminate danger to operator. No flying chips. PLANE-O-PLATE will not damage finest printing plate.

AUTOMATIC. Motor stops automatically at each end of bed travel, or if plate is too thick.

STURDY. Ruggedly constructed, compact, modern in design. Rigid in every detail, operates without vibration of frame. Fits into limited floor space (28″ x 60″).

Here is a rotary shaver that does a real job fast. Will shave plates up to full newspaper page size *or a full bed of smaller cuts* with the same accuracy.

For best results in shaving several small cuts (3″ or less), intersperse them among larger ones. Place the largest cuts at each end of the bed, with big and small ones mixed in between, as in illustration above.

PLANE-O-PLATE takes them in stride—no buckling, no biting, no breaking. Handles all types of flatwork—electros, stereos, zinc engravings, stereo base and wood base—from 0.55″ to over type high.

Single small cuts can be shaved easily and safely by using the special holder block supplied with shaver.

PLANE-O-PLATE does a finished job in one operation . . . provides uniform printing levels for sharp, clear reproduction of plates . . . reduces make-ready . . . prevents wear and tear on press blankets.

WRITE today for new, illustrated folder on the Plane-O-Plate. Tells how to increase shop production.

THE MONOMELT COMPANY, INC.

1611 N. E. POLK STREET MINNEAPOLIS 13, MINNESOTA

NEW COLOR-COMPOSING AND MASKING FEATURES ASSURE BETTER NEGATIVES

ELIMINATES STRIPPING AND DOUBLE-PRINTING

With the color-composing accessory a number of process negatives of varying focus may be composed and photographed in absolute register exactly as specified in layout.

Gone are stripping, double-printing and other costly and hazardous time-consuming operations in color work! Now you can be SURE of accurate and positive results on *every* job requiring color composition — and in less time than formerly required.

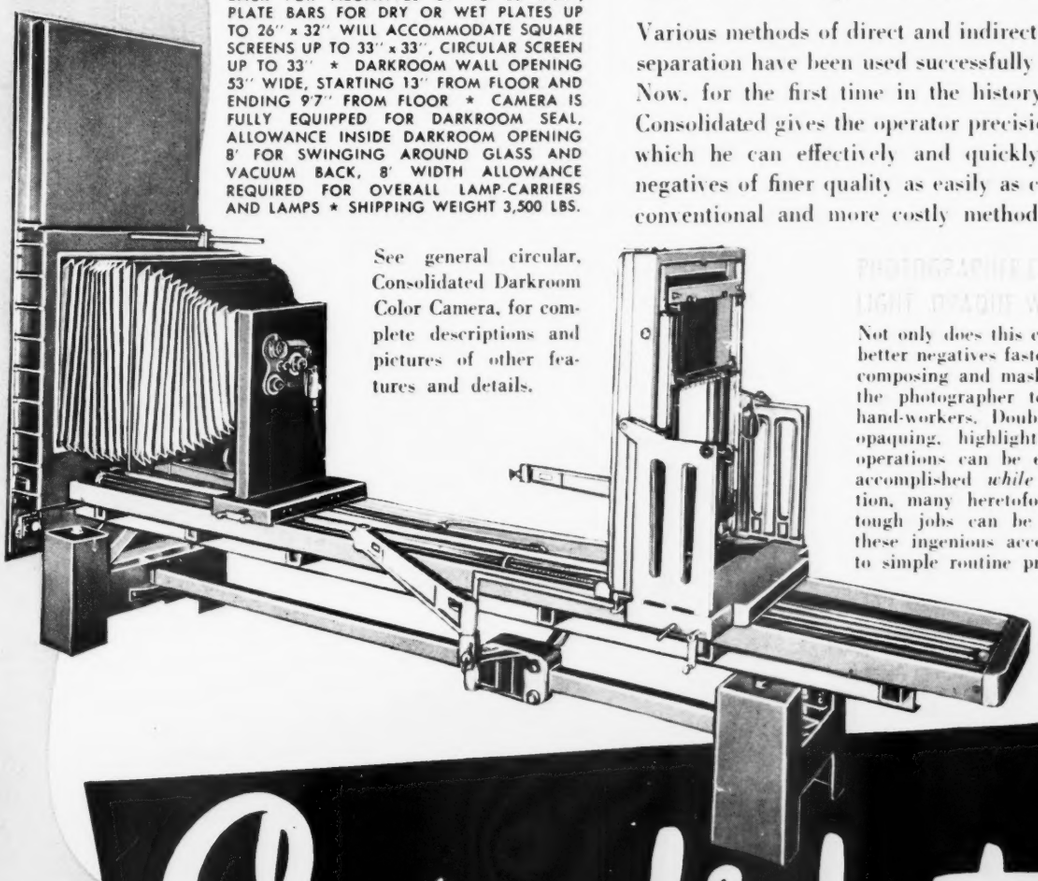
PHOTOGRAPHER SEPARATES MORE COLOR IN NEGATIVES

More extensive color separation than ever before can now be achieved in negatives with the new masking accessory which permits dropping out of more under-color, cuts down on etching and re-etching. Masked negatives result in more faithful reproduction, better color fidelity.

Various methods of direct and indirect masking for color separation have been used successfully for over 20 years. Now, for the first time in the history of reproduction, Consolidated gives the operator precision equipment with which he can effectively and quickly produce masked negatives of finer quality as easily as can be achieved by conventional and more costly methods.

SPECIFICATIONS

31" x 31" CONSOLIDATED PRECISION COLOR CAMERA: EQUIPPED WITH 30" x 40" GLASS-COVERED COPYBOARD, HANDLES COPIES UP TO ½" THICK * PRECISION POSITIVE HOLDER FOR TRANSPARENCIES OR POSITIVES UP TO 20" x 24" — WOODEN COPYBOARD 20" x 24" FITS BETWEEN PRECISION POSITIVE BARS, 48" x 50" WOODEN ACCESSORY COPYBOARD FITS IN FRONT OF GLASS COVERED COPYBOARD * LENSBOARD TURRET TAKES 2 OR 3 LENSES, RECOMMENDED FOCAL LENGTHS 14", 19", AND 24" OR 30", TO GET OVERALL COVERAGE ON 5 TIMES ENLARGEMENT, 7 TIMES REDUCTION * BELLOWS EXTENSION 90"; TILTING VACUUM BACK FOR NEGATIVES UP TO 28" x 34"; PLATE BARS FOR DRY OR WET PLATES UP TO 26" x 32" WILL ACCOMMODATE SQUARE SCREENS UP TO 33" x 33", CIRCULAR SCREEN UP TO 33" * DARKROOM WALL OPENING 53" WIDE, STARTING 13" FROM FLOOR AND ENDING 9'7" FROM FLOOR * CAMERA IS FULLY EQUIPPED FOR DARKROOM SEAL, ALLOWANCE INSIDE DARKROOM OPENING 8' FOR SWINGING AROUND GLASS AND VACUUM BACK, 8' WIDTH ALLOWANCE REQUIRED FOR OVERALL LAMP-CARRIERS AND LAMPS * SHIPPING WEIGHT 3,500 LBS.



See general circular, Consolidated Darkroom Color Camera, for complete descriptions and pictures of other features and details.

PHOTOGRAPHER CAN OUTLINE, HIGHLIGHT, OPAQUE WHILE HE SHOOTS!

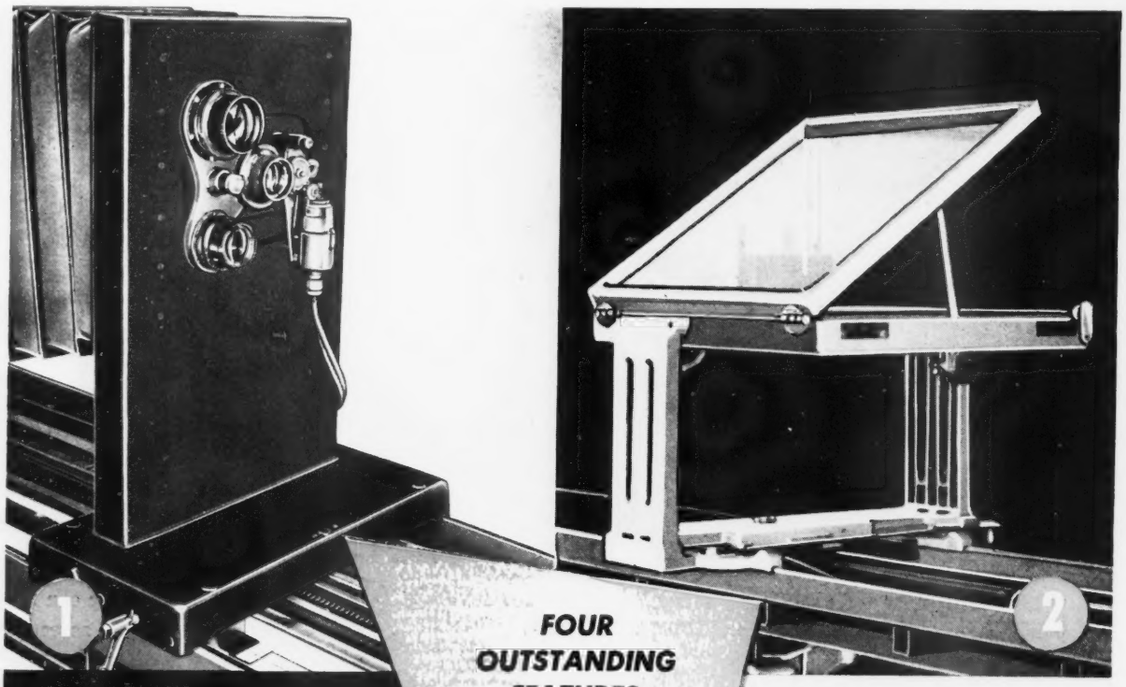
Not only does this color camera turn out better negatives faster, but also the color-composing and masking features enables the photographer to take the load off hand-workers. Double-printing, outlining, opaquing, highlighting, countless other operations can be easily and effectively accomplished *while exposing*. In addition, many heretofore "impossible" and tough jobs can be readily solved with these ingenious accessories and reduced to simple routine procedure.

Consolidated

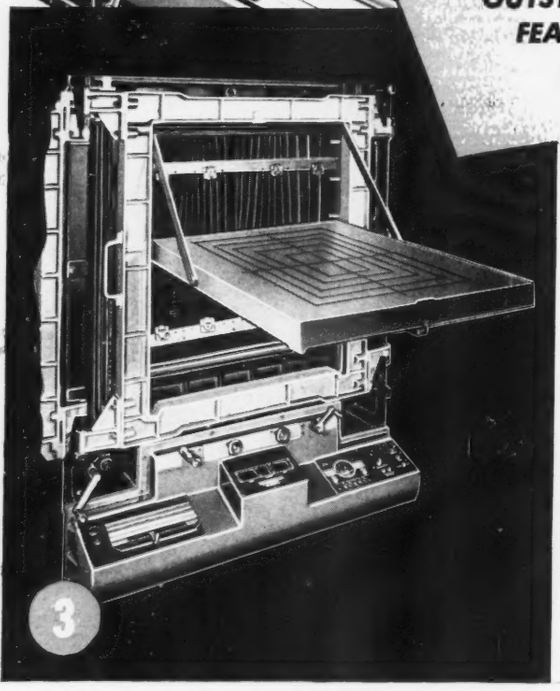
PHOTO ENGRAVERS EQUIPMENT CO.

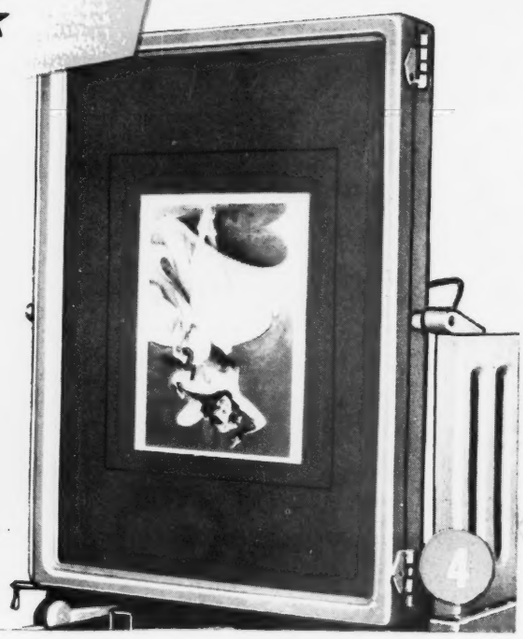
2646 W. NORTH AVE. • CHICAGO 47, ILLINOIS

100% Positive Precision Darkroom Control Just consider some of the features, all controlled from darkroom or entirely from o side, precision positive holder with "finger-touch" operation, color-composing and masking devices, turret lensboard, electrically erated shutter, diffused-type flash lamp, center gear drive, vacuum selector dial to control vacuum, tilting mechanism for easy l ing, lamp-carrier which operates with copyboard . . . Operator loads copy-board, sets camera with outside controls on his way to d room, or he can set it completely in darkroom. Lamps and carriers travel with copyboard. Compensating system for line and halft are completely foolproof and accurate. Operator need never leave darkroom when making line, halftone or color exposures. wonder modern plants everywhere are installing this fine color-camera . . .



FOUR OUTSTANDING FEATURES ★





1 *Multiple turret lensboard — takes 3 lenses.*

2 *"Fingertouch" copyboard—open for copy.*

3 *Tilt-type vacuum back—quick, easy loading.*

4 *Copyboard in shooting position.*

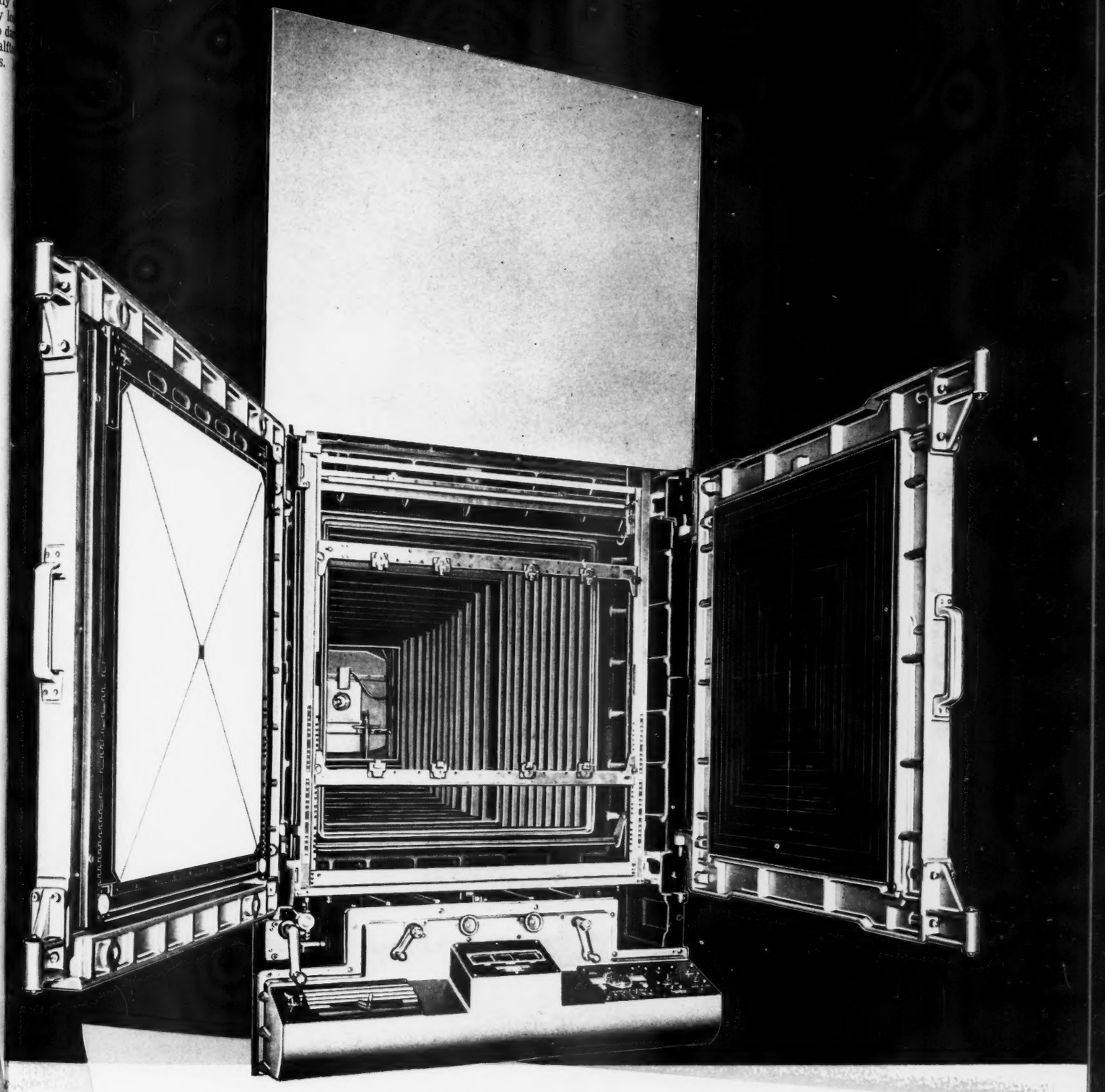
pioneered by

CONSOLIDATED

★

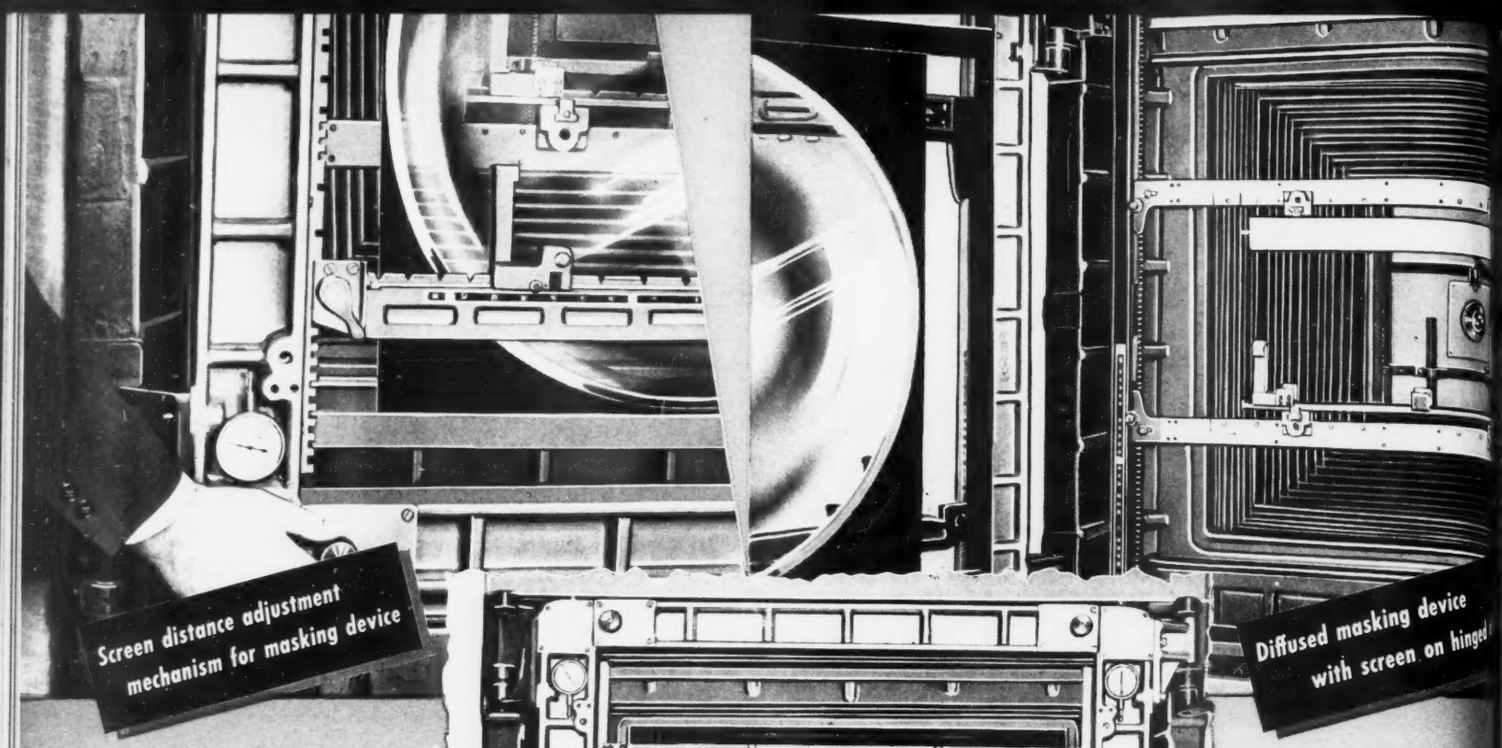
2646 W. NORTH AVE.
CHICAGO 47, ILL.

BUILT TO WITHSTAND YEARS OF SERVICE—Constructed of all-steel and aluminum castings, heavily reinforced thruout. Ba all-welded, torque-proof. Camera is entirely spring suspended, airplane anti-friction bearings eliminate all shocks and vibratio Your complete satisfaction is guaranteed.



Now available — a new 31" precision darkroom color camera by Consolidated

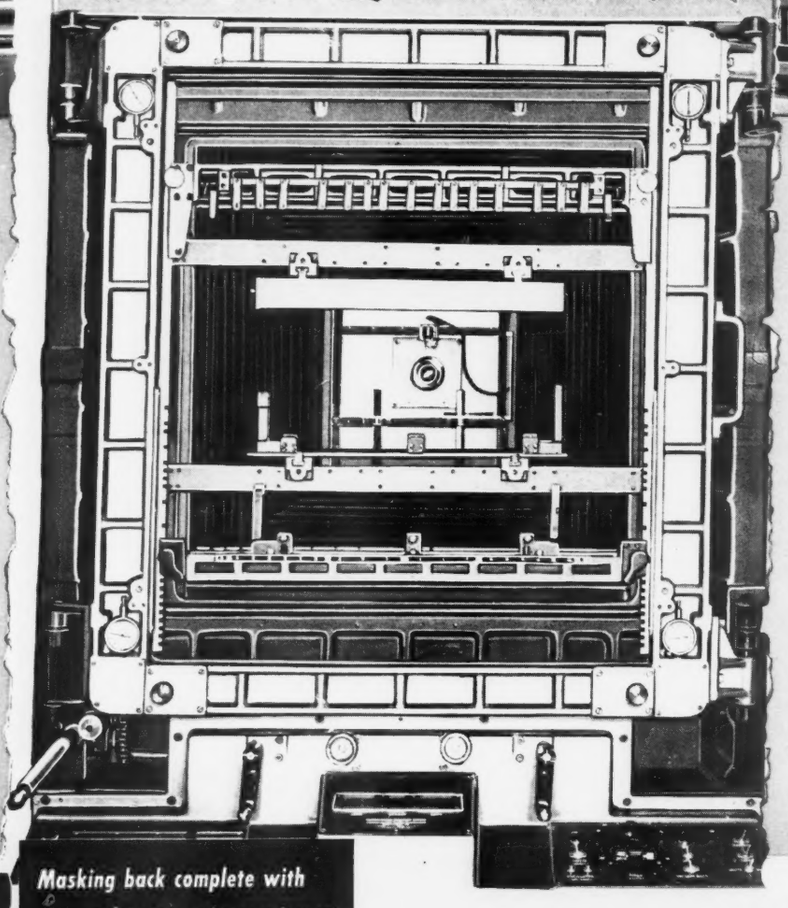
Combining an array of improvements and accessories, Consolidated now brings you a 31" version of the Consolidated Precision Color Camera . . . including the new masking and color-composing devices, precision all-metal copyboard and positive holder, dial-controlled tilt-type vacuum back, multiple turret lensboard, 100% darkroom control, and hosts of other time-and-money saving innovations. This color camera is the solution to every problem in photography encountered by the photo-engraver, lithographer, offset printer and roto printer who specializes in either black-and-white, color . . . or BOTH.



Screen distance adjustment mechanism for masking device

Diffused masking device with screen on hinged

Diffused masking device for color separation operates by directing reflected light rays thru proper filter in lens, then thru diffusing mask and finally thru either the screen for direct separation, or without screen for continuous-tone separation onto the sensitized materials. The masking device is designed for *absolute* register, corrects density errors with mask by easily replacing it with a compensating glass after a partial exposure thru masked continuous tone negatives, and without loss of register on sensitized material. All masking bars use 3-point register principle, assuring precision positive hairline register.



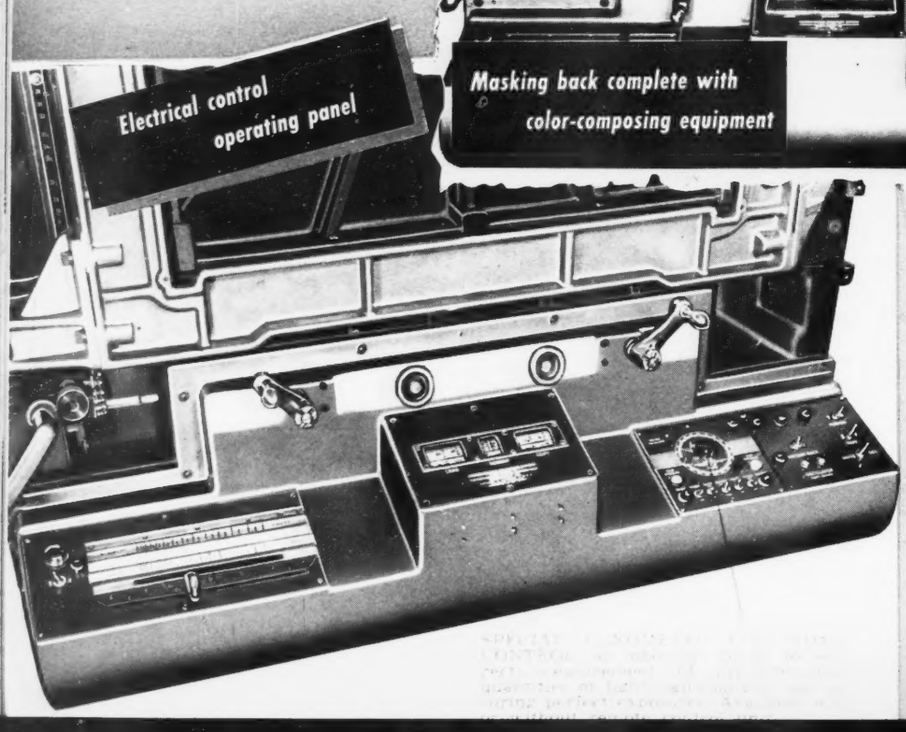
In color-composing, 3-point ... bars are used to shoot ... separate focus by positioning ... tized plates in exact same ... position, removing sensitized ... for each color of a given ... and by use of cutout ... prepositioning of copies to ... with a master layout when ... of different media (as color ... parencies, oil paintings, etc.) ... be composed on a single ... Color composing of a continuous ... separation negatives or ... a recommended procedure until ... time as direct-color separation ... ods are under absolute ... the operator.

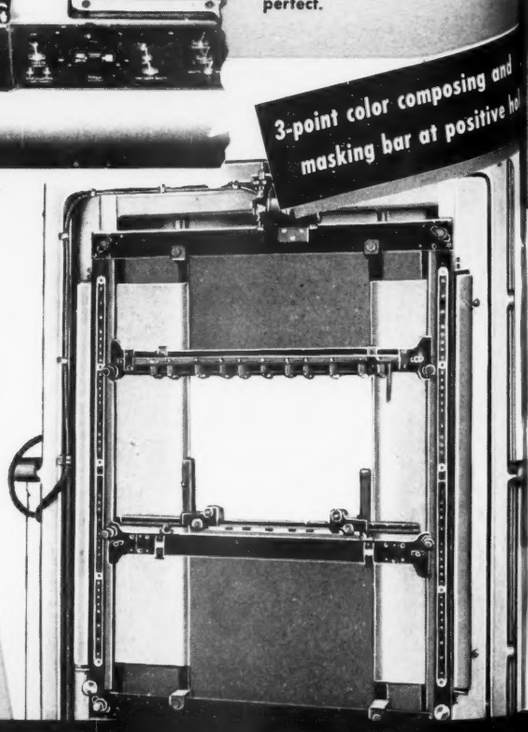
PRECISION RE-REGISTER ... Dial indicators permit positioning ... camera unit within *EXACT* ... enabling duplication of negatives ... a later date with absolute ... of exact register. Delays, ... tions; or damaged negatives ... cause no concern—duplicate negatives ... or interrupted jobs may be completed ... at *any* future time with absolute ... assurance that register will be ... perfect.

Masking back complete with color-composing equipment

Electrical control operating panel

3-point color composing and masking bar at positive ho





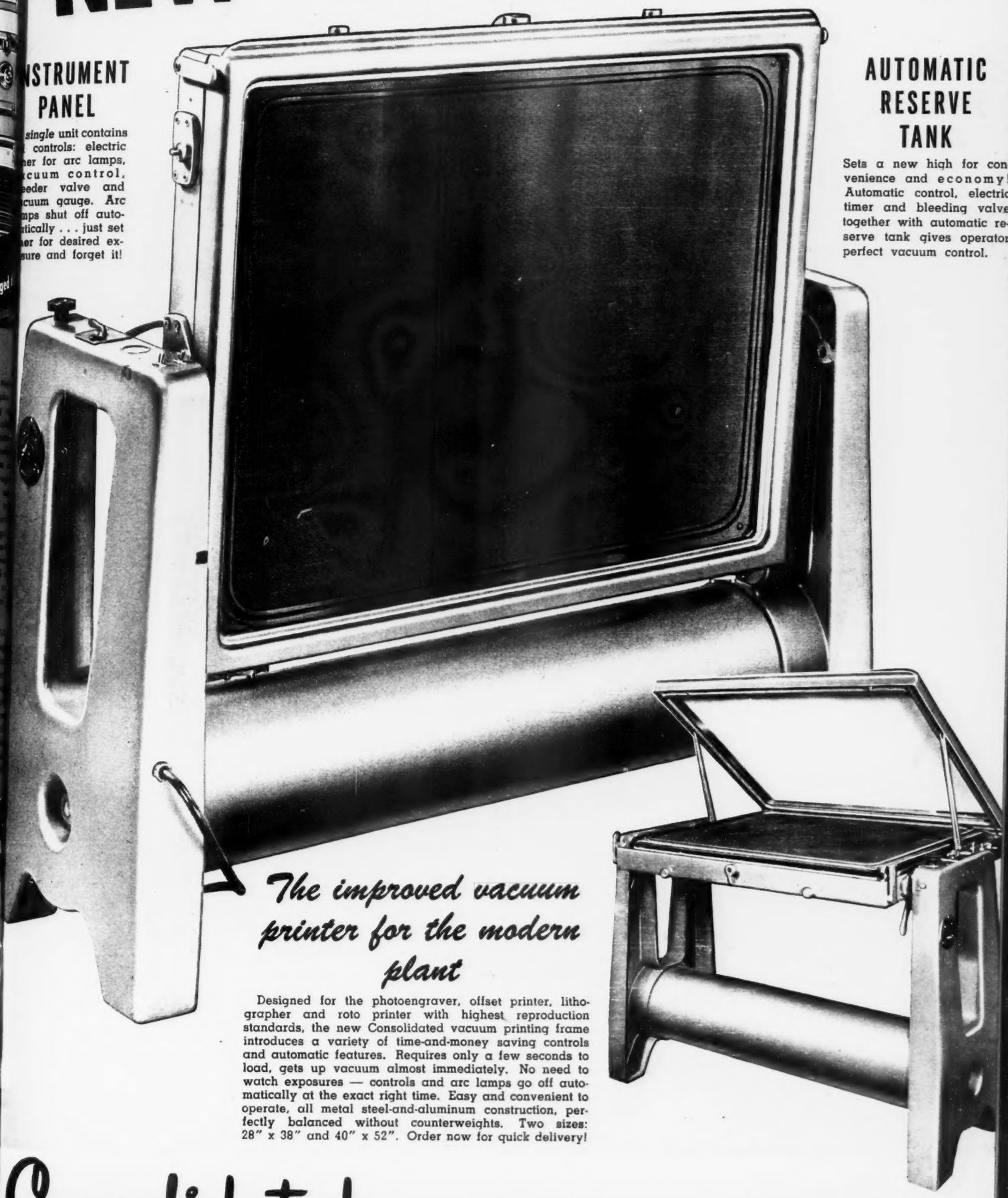
NEW *Consolidated all-purpose vacuum printing frame....*

NSTRUMENT PANEL

single unit contains controls: electric er for arc lamps, cuum control, eeder valve and cuum gauge. Arc mps shut off auto- tically . . . just set er for desired ex- sure and forget it!

AUTOMATIC RESERVE TANK

Sets a new high for convenience and economy! Automatic control, electric timer and bleeding valve together with automatic reserve tank gives operator perfect vacuum control.



The improved vacuum printer for the modern plant

Designed for the photoengraver, offset printer, lithographer and roto printer with highest reproduction standards, the new Consolidated vacuum printing frame introduces a variety of time-and-money saving controls and automatic features. Requires only a few seconds to load, gets up vacuum almost immediately. No need to watch exposures — controls and arc lamps go off automatically at the exact right time. Easy and convenient to operate, all metal steel-and-aluminum construction, perfectly balanced without counterweights. Two sizes: 28" x 38" and 40" x 52". Order now for quick delivery!

Consolidated PHOTO ENGRAVERS EQUIPMENT CO.

2646 W. NORTH AVENUE ★ CHICAGO 47, ILLINOIS

Price List . . . EFFECTIVE DECEMBER 15th 1946

PRICES SUBJECT TO CHANGE WITHOUT NOTICE. **ALL ORDERS ACCEPTED AT PRICES IN EFFECT AT TIME OF DELIVERY.**

24" CONSOLIDATED DARKROOM CAMERA

1	24" x 24" Darkroom Camera with all metal base, Stand, Lensboard and Rear Case, 30" x 40" Glass Covered Copyboard, complete with Stayflat Glass, inside and outside Darkroom control; outside focusing scales, with all steel welded torque proof spring suspended base	$1595.00
1	Screen Raising Mechanism	300.00
1	Set Plate Bars for wet or dry plates	175.00
1	Vacuum Back — Tilting type, complete with heavy duty Pump and Motor	495.00
1	Set Under Carriage all Metal Lamp Carriers, streamlined and adjustable with Monorail	325.00
1	Automatic Electric Shutter and Timer — Complete with Timer in darkroom and operating switch on outside of darkroom	175.00
1	Extra Bellows Extension and overhead tubing support	90.00
1	Consolidated Diaphragm Control complete with F Valve Dial and Rotating Stop	225.00
1	Glass Compensator at Lense	45.00
1	Flash Lamp — Manual	20.00
1	Transparency Holder 11" x 14"	95.00
	Calibrating Focusing Tapes per Lens ..... Each	100.00

31" CONSOLIDATED DARKROOM CAMERA

1	31" x 31", Darkroom Camera with all metal base, Stand, Lensboard and rear case, 30" x 40" Glass covered Copyboard, complete with Stayflat Glass, inside and outside darkroom control; outside focusing scales, with all steel welded torque proof spring suspended base. Price Complete	$2395.00
1	Screen Raising Mechanism	375.00
1	Set Plate Bars for wet or dry plates	195.00
1	Vacuum Back — Tilting type, complete with heavy duty Pump and Motor	695.00
1	Set Under Carriage all metal lamp Carriers with Monorail	325.00
1	Automatic Electric Shutter and Timer	175.00
1	Extra Bellows Extension	95.00
1	Consolidated Diaphragm Control complete with F Valve Dial and Rotating Stop	225.00
1	Glass Compensator at Lense	45.00
1	Flash Lamp — Manual	20.00
1	Transparency Holder 11" x 14"	95.00
	Calibrating Focusing Tapes per Lens ..... Each	100.00

ALL STANDARD LENSES, SCREENS AND LAMPS AT CURRENT PRICES AVAILABLE WITH CONSOLIDATED CAMERA EQUIPMENT.

24" CONSOLIDATED PRECISION CAMERA

1	24" Precision Color Camera with 30" x 40" all metal Glass Covered Copyboard; with Plate Bars and Double Extension Bellows	$3995.00
1	Screen Raising Mechanism with counterbalanced Compensating Glass Mechanism	425.00
1	20" x 24" Precision Positive Holder with 4-way curtain	695.00
	Motor Driven Oscillating Mechanism for above	100.00
1	Hinged Vacuum Back with tilting mechanism and dial valve control with Pump and Motor	695.00
1	Three-way Lens Turret and Mounting Costs	150.00
1	Set Lamp Carriers — Under Carriage type with Monorail	325.00
1	Automatic Shutter Mechanism with Electric Timer	195.00
1	20" x 24" Wooden Copyboard with Mounting Brackets	25.00
1	29" x 39" Wooden Copyboard with Mounting Brackets	35.00
1	48" x 50" Wooden Copyboard with Mounting Brackets	65.00
1	Centering type Plate Bar for Panchromatic Plates with allowance for Standard Bar	245.00
1	Synchronous Lens Diaphragm Control and System, operated from inside darkroom for one to three lenses	395.00
1	Flash Lamp automatically operated by motor control in darkroom	225.00
	Calibrating Lenses on Tapes ..... Each	100.00
	Additional calibrations on same tape ..... Each	75.00
1	3 Point Register Color Composing Plate Bar	375.00

31" CONSOLIDATED PRECISION COLOR CAMERA

1	31" Precision Color Camera with 30" x 40" all metal Glass Covered Copyboard; with Plate Bars and Focusing Scales	$4995.00
1	Screen Raising Mechanism with counterbalanced Compensating Glass Mechanism	575.00
1	20" x 24" Precision Positive Holder with 4-way curtain	695.00
	Motor Driven Oscillating Mechanism for above	100.00
1	Hinged Vacuum back, tilting Mechanism and dial valve control with pump and motor	995.00
1	Three-way Lens Turret and mounting costs	150.00
1	Set Lamp Carriers — Under Carriage type with Monorail	325.00
1	Automatic Shutter Mechanism with Electric Timer	195.00
1	20" x 24" Wooden Copyboard with Mounting Brackets	25.00
1	29" x 39" Wooden Copyboard with Mounting Brackets	35.00
1	48" x 50" Wooden Copyboard with Mounting Brackets	65.00
1	Centering type Plate Bar for Panchromatic Plates with allowance for Standard Bar	295.00
1	Synchronous Lens Diaphragm Control and system operated from inside darkroom	395.00
1	Flash Lamp automatically operated by motor control in darkroom	225.00
	Calibrating Lens on Tapes	100.00
	Additional calibrations on same tape ..... Each	75.00
1	3 Point Register Composing Plate Bar	395.00

CONSOLIDATED SUPER PRECISION COLOR CAMERAS NOW IN PRODUCTION IN 44"x44" AND 44"x64" SIZES. DELIVERY AND PRICES AVAILABLE ON REQUEST.

DELIVERY AND INSTALLATION TERMS AND CONDITIONS

All Prices quoted above F.O.B. Chicago. Crating, Delivery and Erection expense chargeable extra at following rates:

Crating 24" & 31" Standard Camera **$135.00** Export Crating **$200.00**
Crating 24" & 31" Precision Camera **$165.00** Export Crating **$250.00**

COMPLETE DELIVERED & INSTALLED PRICES

Delivery and Installation Expense including all crating, freight and erection equipment on 24" and 31" Precision Cameras:

300	miles from Chicago	225.00
500	miles from Chicago	275.00
750	miles from Chicago	325.00
1000	miles from Chicago	350.00
1500	miles from Chicago	400.00
2000	miles from Chicago	450.00

CONDITIONS OF INSTALLATION AND PLANNING

We will furnish our erector machinist, customer will supply the necessary labor or where local conditions require machinery movers, special hoists and the like . . . all handling expenses will be assumed by the customer.

Note: A complete camera layout is furnished at time of placing your order with us giving all necessary dimensions for darkroom openings and space required for the Camera. Also, wiring diagrams are supplied enabling the electrician to have completed all required wiring prior to the arrival of the Camera equipment thus eliminating any possible delay. Any delay or waiting time for our man caused by incomplete electrical work or any other construction will be charged to the Customer at current hourly rates. We have a complete stock of magnetic switches and other electrical equipment which we can furnish to expedite installation of the electrical devices.

CONSOLIDATED PRECISION VACUUM PRINTING FRAMES

Consolidated Precision All Metal Vacuum Printing Frames with Reserve Tank and Timer, 28 x 38 ..... **595.00** 40 x 52 ..... **895.00**

Consolidated All Metal Elevator Printing Frames with Reserve Tank and Timer, 50 x 70 ..... **1195.00** 54 x 84 ..... **1495.00**

THE LUXOMETER ELECTRONIC CONTROL

The Luxometer Electronic Control for measuring pre-determined quantities of light is available with all of the Consolidated cameras and printing frames. A special panel has been designed for the precision color camera.

Price ..... Installed **$526.50**
Price with remote control unit ..... Installed **551.50**

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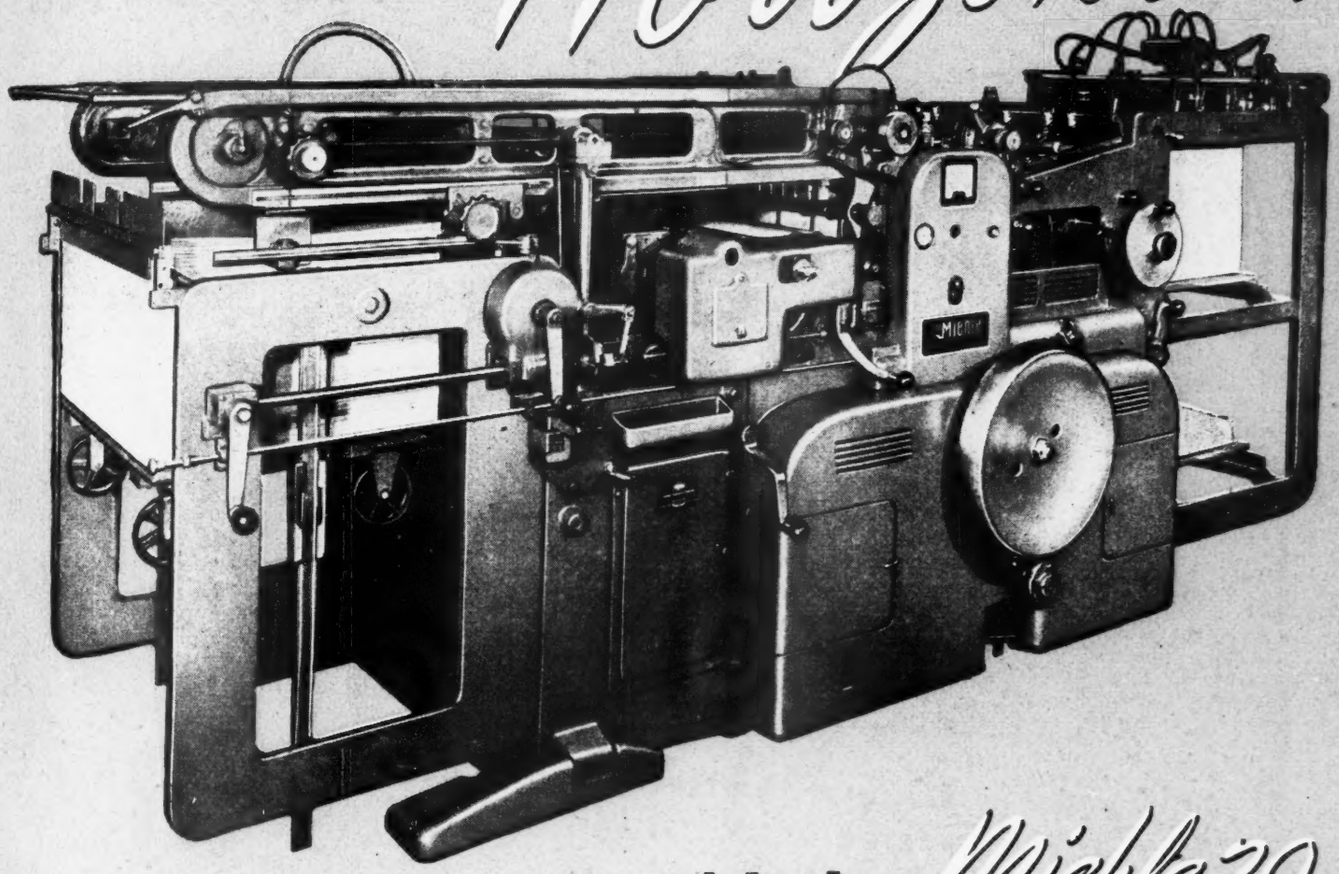
2646 W. NORTH AVENUE ★ CHICAGO 47. ILLINOIS

new production Horizons...



with the Miehle 29

HIGH operating speed—up to 4,500 impressions per hour—is only one of the reasons for the new production possibilities of the Miehle 29 . . . Here are the places where time saved is important in getting more sheets of fine printing per day:

Faster change-over between jobs.
Quicker, easier make-ready.
Fewer stops after the run has started.

These extra-production advantages of the Miehle 29 are the result of Miehle original engineering research to make the new Miehle presses simpler to operate, faster to adjust, and more fully accessible for make-ready and wash-up.

For mechanical details and complete specifications on the Miehle 29, ask your Miehle Representative . . . Or write us direct for the fully illustrated new Miehle 29 Booklet.

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product of 29 years of development

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Chicago 8, Illinois

THE PUBLISHER IS PLEADING FOR CLEARER IMPRESSIONS

THE BUSINESS MANAGER IS EYEING YOUR FUEL BILLS

YOU ARE CONCERNED WITH CASTING AND DROSSING RATES

your answer lies in an "immersion-gas-fired" pot

The "immersion-gas-fired" stereotype pot keeps everybody happy.

It holds the desired molten metal temperature so precisely that every cast is just the same—sure, clear, sharp — despite the irregularities of adding cold metal and draining the melt. It's so efficient and economical that it saves the average user a full 40% in his fuel bill. And it's engineered so carefully that completely automatic and maintenance-free operation is assured year after year—and drossing is cut 18% over the finest electric heating methods.

Already, over 200 publishers use over 500 KEMP "immersion-gas-fired" pots. The chances are that nearby colleagues-in-the-business whom you respect use KEMP equipment. If you'd like a list of users, we'll gladly supply it so you can prove the case to yourself on the basis of the experience of others.

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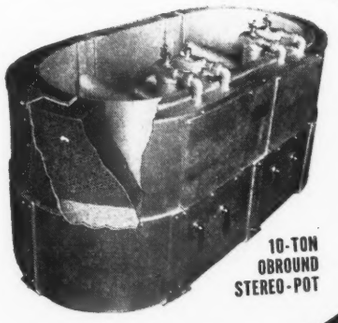
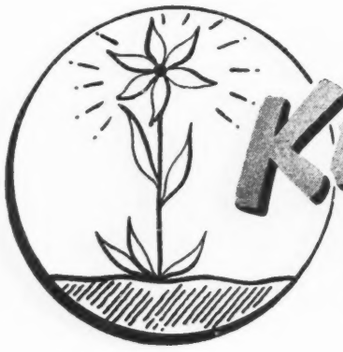
NEW FREE **LITERATURE ON STEREO AND ELECTRO METAL MELTING**

Contains 19 photographs and diagrams and 5 specification tables giving dimensions, gas consumptions, plate melting rates, pot capacities and shipping weights. Discusses the theory and technical characteristics of the process. Offers evidence regarding fuel cost, temperature and dross control, upkeep, working conditions and conveniences. Accompanied by buyer's check list for use in selecting equipment and analyzing performances of different melting methods.



10-TON OBROUND STEREO-POT



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FOR INDUSTRY'S HEAT-USING PROCESSES
ATMOSPHERE GENERATION & ADSORPTIVE DRYER SYSTEMS
FOR PROCESS CONTROL AND PROTECTION

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Please send your new bulletin No. IE-10 . . ☐
Include list of KEMP pot users near me . . ☐

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POSITION .....

COMPANY .....

PLACE .....

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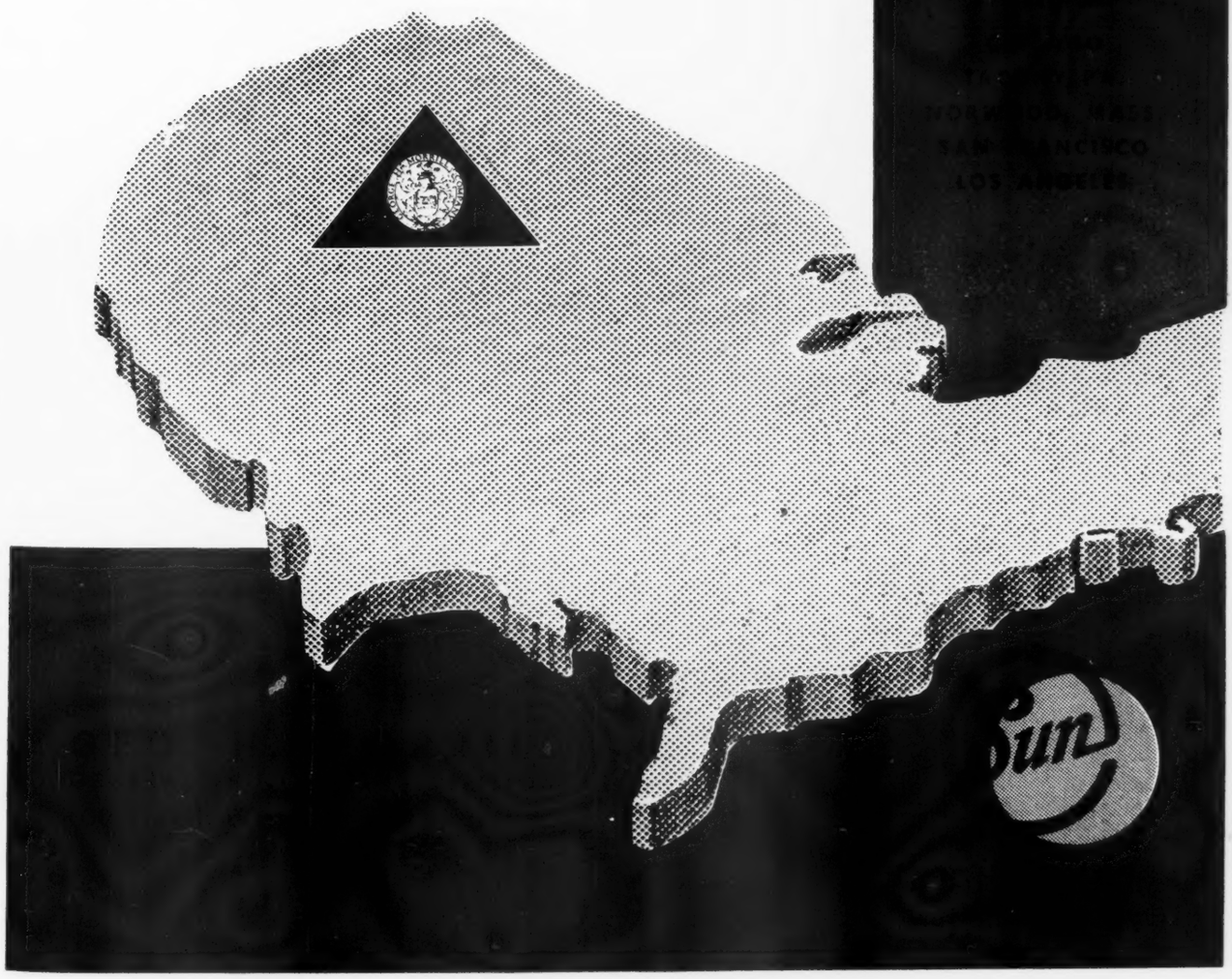
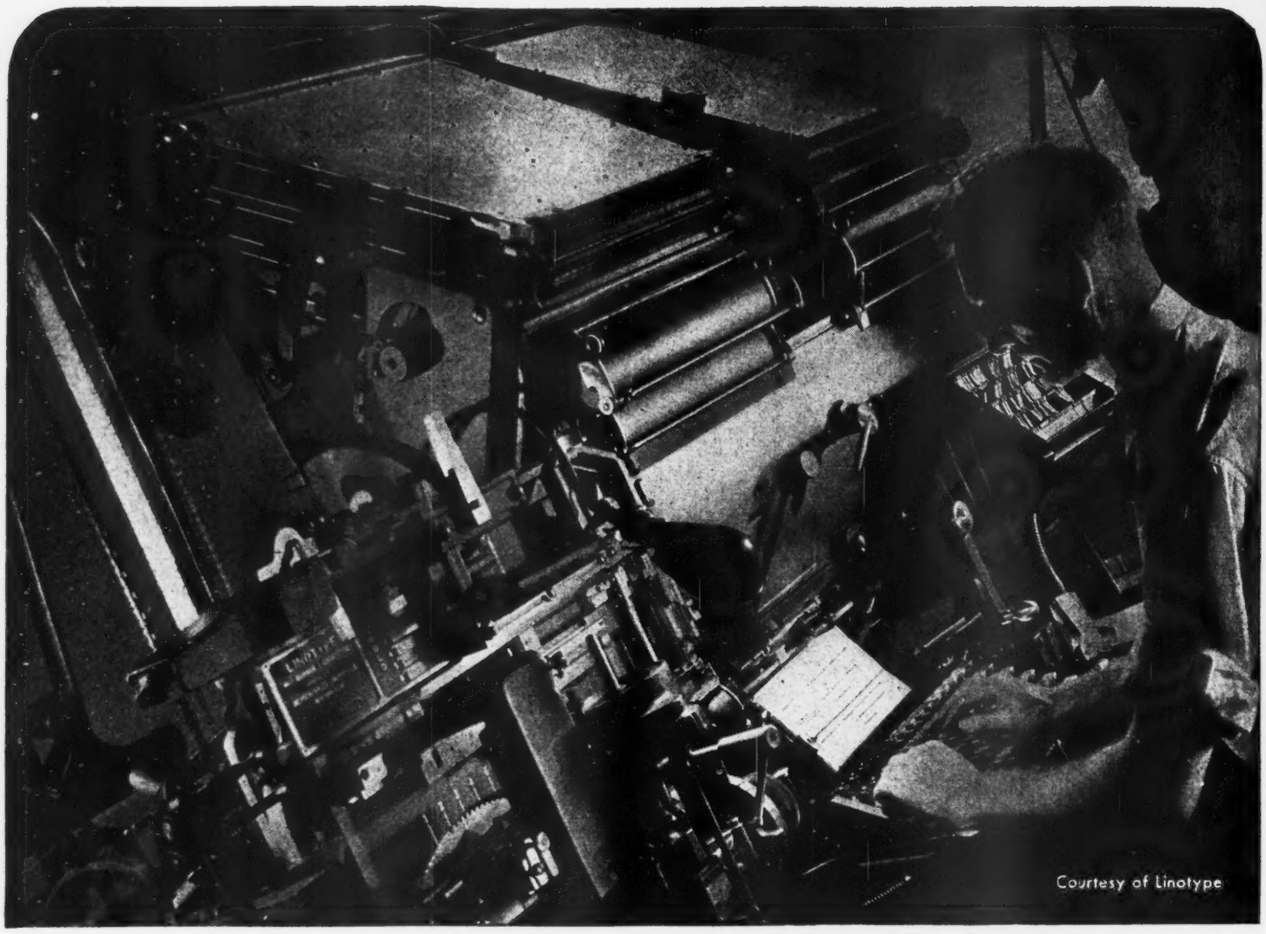
Wherever newspapers are published in America, MORRILL service on newspaper ink is available.

Through 107 years of work with the newspaper industry, Geo. H. Morrill has developed inks which have met the requirements of improved presses, higher speeds, and accurate photo reproduction. A service organization, from coast to coast, assures constant, on-the-job dependable service under all conditions.

No newspaper is too big and none too small to benefit from this fine organization.





FEDERATED Process Type Metals *Cast Smoothly*

Federated *Process* Type Metals are clean, possess excellent fluidity and will produce slugs and type of solid body and sharp face.

Clogging of type casting machinery is caused by dross. Less dross means less build up. The Federated patented process assures a low drossing type metal essential to trouble-free operation. Dross accumulation in the shop will be at a minimum.

Clean metal, both original and replacement stock, will permit a greater latitude in operating conditions, longer metal life and lower cost.

Our metal and service are at your command.

FEDERATED
PROCESS TYPE METALS

- LINOTYPE
- MONOTYPE
- STEREOTYPE
- INTERTYPE
- ELECTROTYPE
- COMBINATION
- SPECIAL ALLOYS
- COPPER ANODES
- MOR-TIN-METAL (an adjusting alloy)
- SAVEMET (a compound for recovering metal from dross)

• Available in bars, ingots, pigs or in standard feeder form. Prompt delivery. Dross drums furnished free of charge. F.O.B. refineries.

• The methods used in the manufacture of Federated process type metals are protected by U. S. Government patents.

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METALS DIVISION

AMERICAN SMELTING and REFINING COMPANY

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Nation-wide service with offices in principal cities

Remember the first plan for a **"UNITED NATIONS"?**

"All the News That's Fit to Print."
The New York Times.
THE WEATHER
VOL. LXVIII. NO. 22,302. NEW YORK, SATURDAY, FEBRUARY 15, 1919. TWENTY PAGES.
WILSON PRESENTS WORLD LEAGUE PLAN TO CONFERENCE; PROVIDES FOR 'ARBITRATION AND REDUCED ARMAMENTS WITH 'ARMED FORCE IN B
PREPARED TO PASS BILL PERMITTING BEER AND WINES
Republican Leaders in Legislature Now Inclined to Construe Prohibition Liberally.
SAY THEY HAVE THE VOTES
Decision Influenced by Tip That Congress Will Let States Prescribe Enforcement.
NEED LABOR'S PROTEST, TOO
Allies Demand Delivery of a German Long-Range Gun
CAPITAL'S VIEWS OF LEAGUE
Hitchcock Praises Covenant as "Greatest International Document."
REPUBLICAN LEADERS MUM
They Reserve Comment, Fearing an Attempt to Commit Senate to Wilson's Plan.
HOUSE MEMBERS APPROVE
Several Republicans Join Democrats in Expressing Satisfaction with Paris Decision.
2 DARING HOLDUPS IN DAYLIGHT IN CITY
Madison Avenue Jewelry Store Robbed at Pistol Point of $5,000 in Diamonds.
$12,035 PAYROLL STOLEN
U. S. Paymaster Arrested on Plot Charge After Taxicab Is Held Up.
PLAN LAUDED BY LEADERS
LEAGUE OF NATIONS

Dayco Printing Roller Experience goes back to 1919, too!

There's a lot more newsprint in an hour's run since those days 28 years ago . . . when the plan for the first "United Nations" was being presented by President Wilson at the Paris Peace Conference . . . the birth of the League of Nations . . .

Those, too, were the years Dayton research engineers first hit the question of production of better rollers for printing. After perfecting natural rubber printing rollers, a new problem arose. How to produce a roller that would be able to withstand the tremendous speed and pressure of a modern newspaper press? In 1933, Dayton came up with the answer—the first successful synthetic rubber roller for printing. A roller that took the gaff of high-speed runs, yet produced printing results equal or superior to those of natural rubber.

Today, Dayco Rollers are faithfully serving America's newspapers . . . synthetic rubber newspaper rollers for high speeds and natural rubber for form position.

When you go to press . . . GO DAYCO!

THE DAYTON RUBBER MANUFACTURING CO., DAYTON, OHIO

1919-1947 *over a quarter of a century of printing roller experience*

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

Announcing **Sperry**

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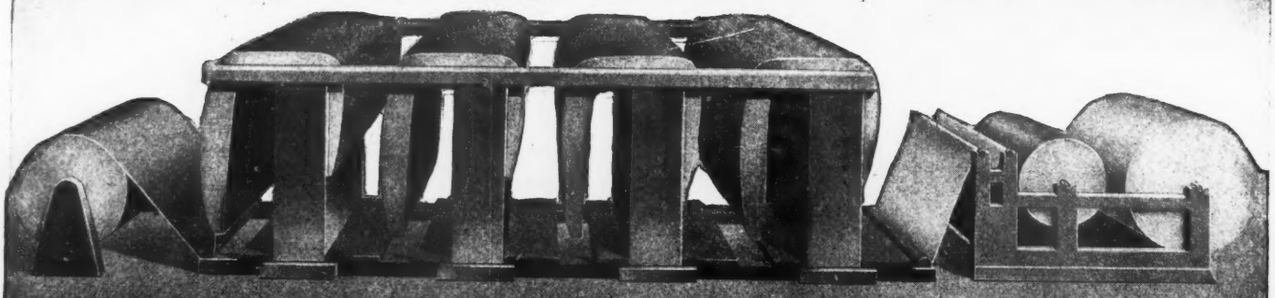
***and* ROTARY LETTER PRESS**



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KEEPING IN TOUCH ipi

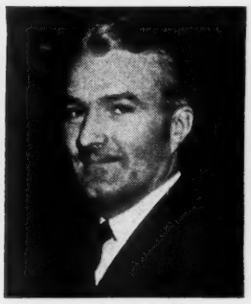
PREPARED BY INTERNATIONAL PRINTING INK DIVISION OF INTERCHEMICAL CORPORATION • FEBRUARY, 1947

Stassen, Thomas, Sturges, Chandler, Gage to Judge IPI Essay Contest

Harold E. Stassen

Lowell Thomas

Wesley A. Sturges



Norman Chandler

Harry L. Gage

New Essay Certificate Designed by DaBoll

In response to a request for a brief autobiography for Keeping in Touch, Mr. DaBoll, designer of the 1947 Essay Contest Certificate, sent IPI the following self interview which is reproduced verbatim.

Raymond Franklin Da Boll, born June 19, 1892, of Yankee and Scotch parents on farm near Clyde, N. Y. Can't recall when his interest in ABCs began, but remembers career came close to ending in eighth year when he waded beyond depth in Erie Canal. Tendency to "overstep" persists; frequently puts him in hot water—sometimes by accident; more often by design. Insists it's designers business to know where to draw the line (literally and figuratively) and should be allowed to do so with minimum of art direction.

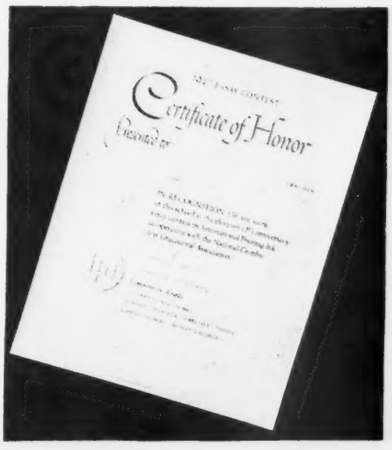
Studied Design at Rochester-Athenaeum and Mechanics Institute—1909—1911; also Art Institute of Chicago in 1912. Stayed to do advertising layout and lettering. Gained most valuable experience under Oswald Cooper in early 20s; owes much to kindly interest of late W. A. Kittredge; also to attendance since 1937 of informal evening classes conducted by Ernst F. Detterer, custodian of rare books and mms. in Newberry Library.

A free lance since 1929. Finds book design preferable to advertising but less profitable. Fear of the deadline has long since convinced him that Thoreau was right. Does large part of his work at country home near Hinsdale.

Most widely known work is calligraphic institutional ad for A. E. Aveyard, November 1942; later lithographed and sent to U. S. Army and Navy Chaplains throughout world, and to clergymen, public officials, libraries, etc. in U. S. A.

Member—STA; AIGA (27 Chicago Designers) Cliff Dwellers, Westerners. Has talent for involvement in extra curricula projects for good of certain "causes" with uncertain outcome and no income.

(I doubt if my family life—musical aspirations—frustrations, etc. should be told here.)



Over 150 Schools will Participate in Contest

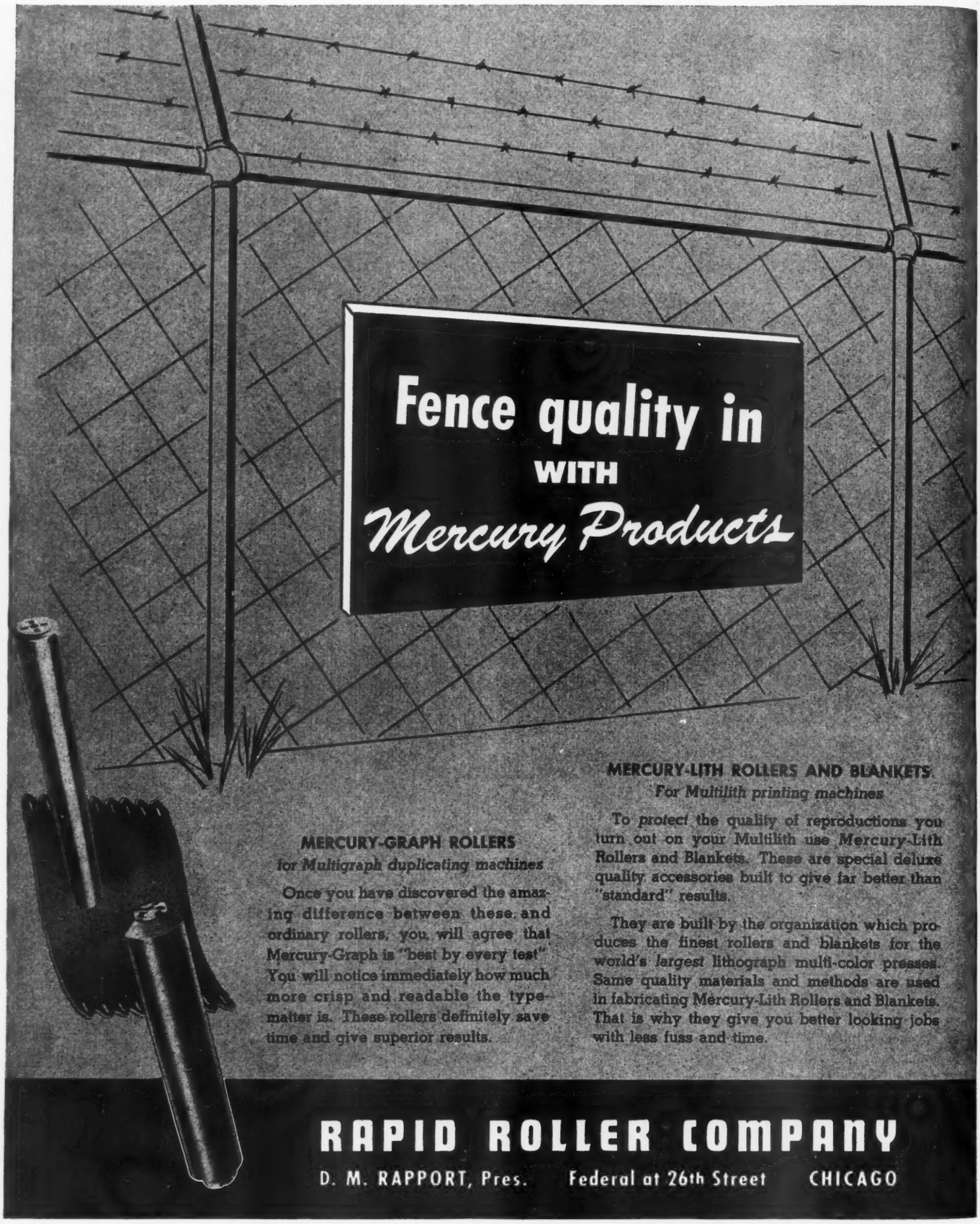
Judges who will select the thirty national prize winners in the 11th Annual Essay Contest sponsored by International Printing Ink in cooperation with the National Graphic Arts Education Association were recently announced.

Harry L. Gage, Vice-President of Mergenthaler Linotype Company, will be chairman of the five-man jury. Others selected are: Harold E. Stassen, former Governor of Minnesota and possible presidential candidate in 1948; Lowell Thomas, well-known radio news commentator; Wesley A. Sturges, Dean of Yale University, School of Law; Norman Chandler, President and Publisher of the Los Angeles Times.

Thousands of students in more than 150 high schools, junior high schools and preparatory schools will participate in the contest by writing essays on the subject "Printing's Place in the Postwar World." Each school selects the two best essays submitted by its students; and these, in addition to receiving local prizes, become eligible for the national awards.

The essay contest is primarily educational in purpose. Its aim is to help in the dissemination among students of printing of a better understanding of the vital importance of printing in the world of today. Recently the contest was approved by the National Association of Secondary School Principals.

FOR THE NEWEST IN INKS AND COLOR SERVICE—"KEEP IN TOUCH WITH IPI"



MERCURY-GRAPH ROLLERS
for Multigraph duplicating machines

Once you have discovered the amazing difference between these and ordinary rollers, you will agree that Mercury-Graph is "best by every test" You will notice immediately how much more crisp and readable the type-matter is. These rollers definitely save time and give superior results.

MERCURY-LITH ROLLERS AND BLANKETS
For Multilith printing machines

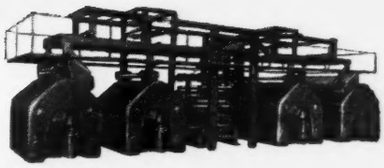
To *protect* the quality of reproductions you turn out on your Multilith use *Mercury-Lith* Rollers and Blankets. These are special delure quality accessories built to give far better than "standard" results.

They are built by the organization which produces the finest rollers and blankets for the world's *largest* lithograph multi-color presses. Same quality materials and methods are used in fabricating Mercury-Lith Rollers and Blankets. That is why they give you better looking jobs with less fuss and time.

RAPID ROLLER COMPANY

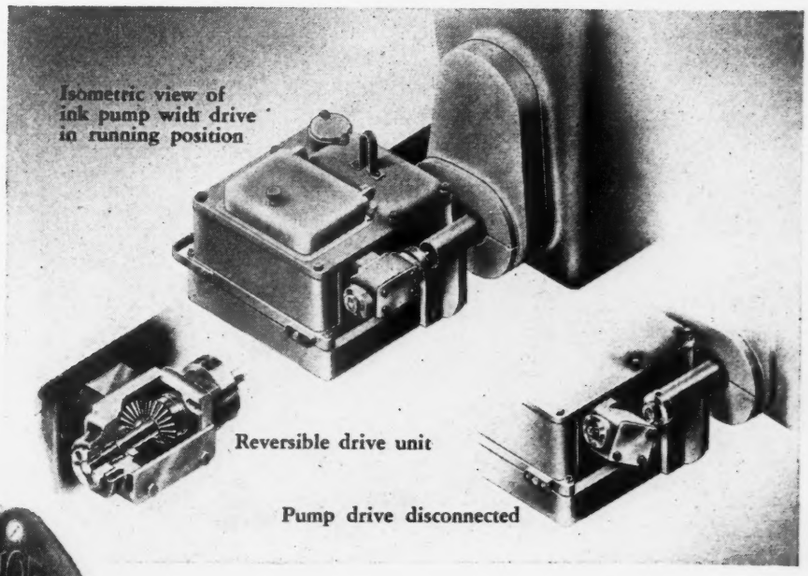
D. M. RAPPORT, Pres. Federal at 26th Street CHICAGO

Another outstanding feature of the Hoe Color-Convertible Press



THE

INK PUMP



Time saving — ink saving — better printing — greater safety — are fundamental advantages of the Hoe pump system of ink distribution.

Another important advantage is its contribution to the color flexibility of the new Hoe Color-Convertible Newspaper Press.

Instantly ready for use with color — each pump has a reversible drive unit.

Easily interchanged — flange mounted — replacement by extra pumps, reserved for color, merely requires removal of four bolts above floor level.

Any pair of cylinders can be switched from black to color, or vice versa, when equipped with duo-rail with pumps at both ends and two sets of tubes.

Just the right amount of clean, fresh ink at all press speeds. The flow is determined exactly by the piston displacement of the individual pump for each column.

Quick, fingertip control of each column from a safe position alongside the press.

The Hoe ink pump completely supersedes every form of ductor roller and open fountain.

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SURE IT'S BOARD STOCK. The idea that rotogravure is limited to thinner stocks is distinctly old hat. Champlain Rotogravure Presses print millions of these Jello cartons in a continuous operation from a fast-moving *web*. Yet Champlain Presses handle tissue-thin cellophane, difficult foils or glassines with equal ease.

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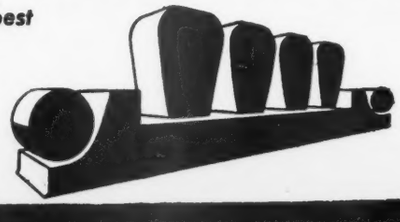

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This latest Vandercook is especially suitable for galley proofs of machine composition and made-up pages. Gives good proofs of halftones. Easy to operate . . . safe and fool proof.

SPECIFICATIONS

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Maximum Form	*14″ x 24″*
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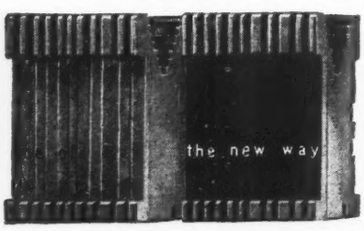
As with Black & White contrast, these colors can be applied to old as well as new matrices. Write today for information on the use of colors and all the other advantages of Matrix Contrast Service!



MATRIX CONTRAST CORPORATION, Empire State Building, New York 1, N. Y.—326 W. Madison Street, Chicago 6, Ill.—1105 Trenton Street, Los Angeles 15, Calif. — Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. I.

Matrix Contrast Service

DISCUSSION

of the Offset Press Water Distribution System

By R. P. WILLARD, Development Engineer,
Moore Business Forms, Inc., Elmira, New York

By Way of Explanation:

Mr. Willard tells us it is not his intention in this article to suggest a radical departure from the conventional method of water distribution on offset-lith printing presses. The suggestions which have been made are not of a revolutionary nature. It is hoped they will be of some value both to the designer and the user of offset equipment. Summarized, the suggestions are as follows:

(1.) The use of single thickness cloth roller coverings has a definite advantage in the reduction of the undesirable effects of speed changes on quality of printing.

(2.) The magnitude of changes in centrifugal force with speed variation is less in large diameter rollers than with smaller diameter.

(3.) An independent water distribution driving mechanism to keep the rollers turning over while the press is at rest, is advantageous because it constantly replenishes moisture lost to the air.

(4.) Proper consideration given to roller width can eliminate much operating difficulty on the press.

OF ALL the features of the lithograph press, probably the one which has been the subject of the greatest criticism over a period of years is the water distribution system. Considerable thought and experimentation has been devoted to this particular portion of the offset press mechanism, and it is the purpose of this article to discuss the problem from an analytical viewpoint.

As the offset process is a planographic process, with the printing areas of the plate neither raised above nor depressed below the plate surface, there must be some means by which the ink is received on the plate only in those areas where it is desired. This is accomplished by making the plate in such a manner that the printing portions are receptive to a greasy ink, while the non-printing portion is receptive to a water solution. Because the greasy ink and the water repel each other, as long as each is supplied to the plate in the correct quantity, each will remain separate on the plate, and the printing areas will be clearly defined.

Water and ink with a grease content are not the only mediums by which planographic printing of this nature may be accomplished. For example, equivalent results have been obtained through the use of mercury in place of water, and copper plates. In this case, the mercury forms an amalgam on the non-printing areas of the plate, which is repellent to the ink. However, the difficulties encountered with this process as well as the greater expense of the materials involved, have tended to restrict its development beyond a few experimental applications. In the interest of simplicity this discussion will be limited to the use of the conventional water solutions and grease ink method.

The major problem encountered with the present type of water distribution system is to establish and maintain the optimum film of water on the plate, in correct balance with the ink supply. An excess of either ink or water results in printing of poor quality, and considerable judgment is required on the part of the operator to insure that the two mediums are in correct relationship to each other. There is a tendency, especially among inexperienced pressmen to attempt to balance an excess of ink by an increase in the water supply and vice versa. Such procedure leads to further difficulties with the final result—poor printing and an excessive wastage of stock.

The conventional method of distributing and applying the water film to the plate, is substantially the same as that utilized in the distribution of ink. This consists of a water fountain or pan containing a supply of the water solution, a fountain roll partially immersed in the fluid, a cloth covered ductor roll to transfer the ink to the metal-surfaced

(Continued on Page 58)

EDITOR'S NOTE:

THROUGH the courtesy of McCorquodale Colour Display Ltd., London, Eng., and the British Printer, *we are printing the accompanying description and illustrations related to the method for producing paint, enamel and lacquer chip cards. The application of multi-color printing up to 72 colors at one impression is fascinating.*

J. C. Sanderson, Director of McCorquodale Colour Display, Ltd., states that his organization is finding new uses for the process and is now working upon a method for printing dyes on fabrics, 72 colors at one impression. The firm has not developed other uses for the process such as purely decorative printing because it has had so much color specimen card work. A possible application of the method would be for window display work.

Mr. Sanderson states his firm can reproduce any simple line designs and display text matter by this method. Overprinting matt colors by letterpress produces interesting effects.

Up to the time of preparation of this article, one licensee has been secured in the United States. Machines will be available by autumn 1947.

McCorquodale Color Process

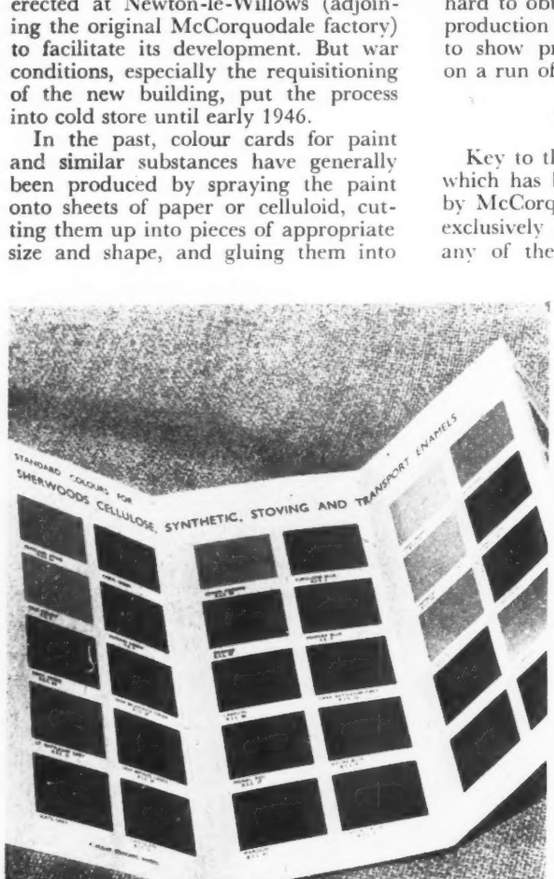
Developed in England for "printing" up to 72 colors at one impression—Chief use up to present is for production of paint, enamel and lacquer color specimen showings—Window display and fabric printing being developed

A NEW process of colour printing has been developed by McCorquodale and Co., Ltd., which seems likely to revolutionize the production of colour cards for many industries and has further possibilities in display. Experimental work was going on, and production by the new process actually began, in 1938; just before the war, a new building was erected at Newton-le-Willows (adjoining the original McCorquodale factory) to facilitate its development. But war conditions, especially the requisitioning of the new building, put the process into cold store until early 1946.

In the past, colour cards for paint and similar substances have generally been produced by spraying the paint onto sheets of paper or celluloid, cutting them up into pieces of appropriate size and shape, and gluing them into position, by hand*, in appropriate spaces on the cards. The new McCorquodale process prints the colours directly on the card, and so does away with the need for cutting up sheets and for the slow, laborious process of hand gluing, which in the past has depended on a supply of fairly skilled female labour such as is becoming increasingly hard to obtain. Apart from the quicker production which it offers, it is claimed to show progressive reduction in cost on a run of 5,000 or more.

The Equipment

Key to the new process is a machine which has been designed and patented by McCorquodale's and is being made exclusively for them. It does not use any of the recognized printing techniques. As far as printing-machinery terms are applicable, it can be described as a flat-bed press, fed at one end by an HTB stream feeder, with a belt delivery at the other end from which the finished cards are removed to be placed on racks for drying. The unorthodoxy lies in what happens in between. Above the press there is a closed rectangular tank divided into compartments, each compartment containing a different coloured printing liquid. Beneath each of the compartments is a nozzle from which a flexible tube leads down, through a valve, to a steel or bronze matrix (perhaps better described as a mask) which is cut with the shapes of the colour patches required. By controlling the pressure of air on the liquid in the tank, the speed of its flow is controlled; the valve lets the liquid out at the instant when the card to be printed is in position under the matrix, and ensures that only the right quantity is released.



Miniature reproduction of enamel and lacquer color specimen card printed by McCorquodale Color Process. All of the 37 color specimens were printed at one time in the plant of McCorquodale Colour Display, Ltd., London, Eng. The original card is 15⅛ in. by 7½ in. The color spots appear to be heavily embossed (raised). This effect is due to the heavy coating of color applied to the card. Finish of the color spots may be glossy, semi-glossy or matt effect

Compartmented Tank Holds Colored Printing Liquid

It will be realized that the number of colours that can be printed at one time is limited only by the number of compartments in the tank from which the printing liquid is fed. It is referred to as a liquid rather than an ink, because normally a printing *ink* in the ordinary sense of the word is not used, but a liquid with a cellulose base. It can give either a glossy, semi-glossy or matt effect, so that the printed card will accurately represent not only the colour, but also the texture of materials as different as high-gloss varnish, paint or matt distemper.

Moreover, the deposit of colour on the card is so thick that it can be em-

* A machine to do this job has been designed, and is fairly widely used, in U.S.A., where the average colour-card "run" is considerably larger than in this country. Even using this machine, however, it is difficult, if not impossible, to exceed an output of 1500 cards in a normal working day.

View in the pressroom of McCorquodale Colour Display Ltd., London, Eng. Here enamel color specimen cards are being printed for an English paint manufacturer. The flatbed press is fed at one end by an HTB stream feeder. A belt delivery at the other end receives the "printed" cards. The cards are removed from the belt delivery by hand and are placed on racks for drying. Directly above each press can be seen a closed rectangular and compartmented tank containing a different colored cellulose base printing liquid. Beneath each of the compartments is a nozzle from which a flexible tube leads down through a valve to a steel or bronze mask. The mask is cut with openings according to the shapes of the color patches required. The flow of the "ink" (cellulose-base liquid) is controlled by compressed air. The valve for each color opens to permit the flow of the liquid at the instant when the card to be printed is in position under the mask. As will be seen in the picture, the finished cards are removed from the belt delivery and are placed singly in the drying racks.

bossed without damaging the surface of the card, and this makes possible a further development—the imprinting, as an after-process, of a pattern simulating texture such as the grain of wood or the weave of textiles. This pattern can be embossed by a steel die made photographically from a sample of the actual material. Thus every kind of colour card for the many industries that use such cards can be produced by the process.

Another development now envisaged, which will speed up production still further, is the incorporation of a thermo-drying system so that the time (and storage space) at present entailed in racking will be avoided.

It is claimed that a higher degree of accuracy in the reproduction of colours can be achieved than by any orthodox colour-printing process. Before a job is tackled, the whole quantity of colour liquid required for that job is mixed, to ensure that there will be no difference between sample and finished product, and a specimen of this production batch is submitted to the customer for approval of colour and finish.

Apart from colour cards, which were the obvious starting-point for the application of the McCorquodale process, it can be used in any form of colour printing for display, on showcards, packages and the like, where it is desired to achieve an unusual effect by having a part or parts of the colour standing out in relief (the relief, being, of course, achieved by the thickness of the liquid applied). In this way it opens up new possibilities for the designer of printed sales-promotion material.

Users—in U. S. and Abroad

The reception given to the process has proved encouraging. Its users already include the British Standards Institution, many paint and varnish companies (including ICI), Elizabeth Arden and Coty in the cosmetic industry, and Tintex dyes.

Nor is interest confined to this country. Enquiries have been received from many parts of the world, and the process is being operated under license in the United States, where work is being done for Montgomery Ward, The Pittsburg Plate Glass Company, Sherwin-Williams Company, and a number of other well-known firms in various industries. McCorquodale's have received the full support of the Ministry of Supply in connection with the manufacture of the patented machine for export. It is supplied to licensees on a hire basis.

In the home market, all printing is being done at McCorquodale's own factory, which was designed to give the best possible natural light, with filtered air and humidity control, so that first-class work can be produced. As McCorquodale's already have letterpress, litho and gravure plant, the firm is in position to combine the printing of colours by the new process with the printing of accompanying text by the process which is considered best for the particular job in question.

Standard Type Presentations

A proposal for the standardized presentation of type faces to be used by all type founders, trade compositors and printers was made at a dinner meeting sponsored by the Type Directors Club New York, N. Y., early in January. Bernard Snyder, president of the American Typesetting Corp., Chicago, outlined the plan, and Frank Powers, president of the Type Directors Club, was chairman of the meeting. The plan is that all type founders should present new type faces in a standardized form so that all buyers of printing can work from uniform specimens.

Plant Engineering—*How it works—Analysis*

and recommendations submitted in portfolio form to management of United Printing Co., Los Angeles, Calif., by Robt. Royden Greer, Industrial Engineer

SOME time ago, the United Printing Co., Los Angeles, Calif., a commercial and publication printing house engaged the services of Robt. Royden Greer to make an analysis of its plant and present recommendations for efficient layout and operation. That part of Mr. Greer's report to the management of this printing plant which affects the actual production departments is reproduced in this issue of *Printing Equipment Engineer*. This article is being printed for two reasons: (1) To enable those of our plant executive readers who are not familiar with such proceedings to get an insight into the method, and (2) There may be some valuable suggestions which will appeal to many plant executives which can be applied to their plants. Everybody knows, of course, that no two printing plants are exactly alike. Nevertheless, ideas obtained from one plant are applicable to other plants.

First floor space available in this particular plant is 54 ft. 9 in. by 76 ft. 10 in. Second floor area is 81 ft. 7 in. by 76 ft. 10 in. It was necessary to engineer the plant to occupy two floors because additional one-level space was not obtainable.

In his report to management of the concern, Mr. Greer stated that in spite of the handicap of being located on two floors, the new plant has noteworthy features for economical and efficient operation.

The two floors presented a number of engineering problems. The ground floor finally yielded the pressroom, stockroom and receiving department. The second floor (of larger capacity) contains the business offices, composing room, multilith department and the bindery.

The location of every piece of equipment was studied carefully and placed to benefit so far as possible by the direction of daylight, streamlining flow of production, prevention of bottlenecks, speedy accessibility for the type of work at hand; minimum of worker fatigue, increase of safety, ease of supervisory control, floor load distribution, peakload accumulation centers, and adaptation of modern production methods.

We have omitted Mr. Greer's recommendations with respect to the business offices. The superintendent's office is located for immediate contact with executives, salesmen, and with departmental foremen. Its isolation from regular office activity gives two-way privacy.

Without further explanatory comment, we reproduce Mr. Greer's recommendations. They are as follows:

Composing Room

THE Linotype Department has been made into a private unit, without intense daylight striking operators at their machines. Venetian blinds control the light from windows affecting Linotype department. Magazine racks are placed behind operators, so that either operator can get any magazine without causing the slightest interference with the other operator. Benches, copy-tables, liner cabinet, sort-tray shelves, parts shelves and cabinets, and metal reserve are indicated. There is tremendous bank surface (with galley storage underneath these banks.) A proof press is centrally located for all banks, for taking proofs with the least amount of effort, or danger of damage to type matter. A Miller saw is centrally located at this point.

The Ludlow Department is strategically located for compositor, stonehand, or Linotype department. For good slugs 24 pt. and larger, a surfacer is indicated, because this pays its way in press time economies in a few months.

Hand Side: All cabinets are placed for daylight to come from the left. Each cabinet should have a cut-cost top, with storage space for leads, slugs, and spacing material. That will save tremendous waste of hours and footsteps in a year. A 100-galley cabinet has been placed conveniently in type cabinet aisles. This will give privacy for accumulation of page makeup and corrections until this quota of work is OK and released for storage near its proper stone in the galley storage area. A lead-cutter, hand miterer, copy layout, etc., can utilize the top of the galley cabinet. This method and procedure has been found to be the "plugging of another leak" in composing room nonproductive time.

Transfer Rolling Galley Rack—Another valuable time-saving method (not shown on drawing) is a small galley rack on rollers. It is designed to keep center of gravity low so as not to tip over, when loaded, by being carelessly rolled from one point to another. This could accom-

Second Floor Composing Room and Bindery Layout in Two-Floor United Printing Company, Los Angeles, California. Reproduced from blueprint and specifications prepared by Robt. Royden Greer, Industrial Engineer, Los Angeles, Calif.

Business Office:

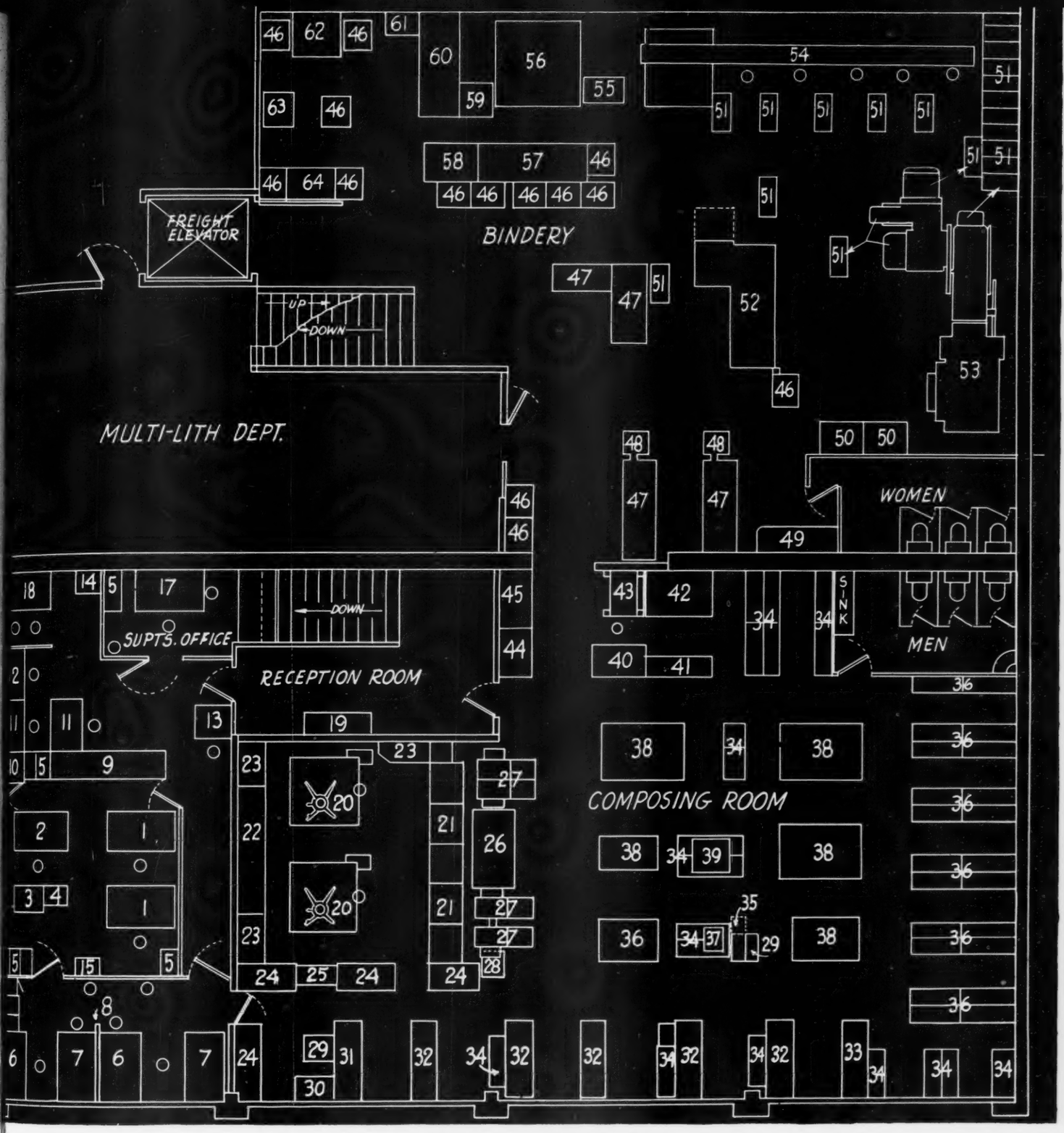
1—Desk
2—Accounting Desk
3—Accounting Table
4—Adding Machine
5—Filing Cabinets
6—Officer's Desk
7—Officer's Table
8—Banker's Partition between spaces for Officer's Desks. (12 in. higher than desk and table tops.)
9—Counter
10—Safe
11—Salesman's Desk
12—Customers' Desk
13—Switchboard
14—Sink
15—Water Cooler
16—Clothing Locker
17—Desk in Superintendent's Office
18—Proofreader
19—Waiting Bench

Composing Room:

20—Model 8 and Model 29 Linotypes
21—Magazine Racks
22—Sorts Trays on Shelves
23—Bench with Drawers and Storage
24—Bank and Galley Rack
25—Proof Press
26—Ludlow Caster
27—Ludlow Matrix Cabinets
28—Ludlow Surfacer
29—Miller Saw-Trimmers
30—Strip Material Storage
31—Cut Cabinets
32—Double Type Cabinet
33—Wood Type Cabinets
34—100-Galley Cabinets
35—Storage
36—Vandercook Proof Press
37—Rouse Rotary Miterer
38—Makeup Tables with Galley and Furniture Storage
39—Cylinder Furniture Cabinet
40—Composing Room Foreman's Desk
41—Job Ticket Files
42—Rouse Lineup Table
43—Dumb Waiter
44—Cylinder Form Rack
45—Job Form Rack

Bindery:

46—Standardized Rolling Stock Tables. (Each holds 500 lbs. of 22x28 in. stock in three sections.) See Mr. Greer's explanation in accompanying article.
47—Collating Table
48—Stitcher
49—Padding Tables
50—Skids
51—Signature Trucks
52—Baum 22x29 Folder
53—Cleveland MM 28x44 Folder
54—Christensen 5 Station Stitcher
55—Table or Signature Truck
56—38 in. Cutter
57—Cutting Table (Scrap bins underneath)
58—Auxiliary Cutting Table
59—Drop Leaf for Shipping Table
60—Shipping Table
61—Hand Truck
62—Burton Perforator
63—Bench Paper Drill
64—Paper Drill



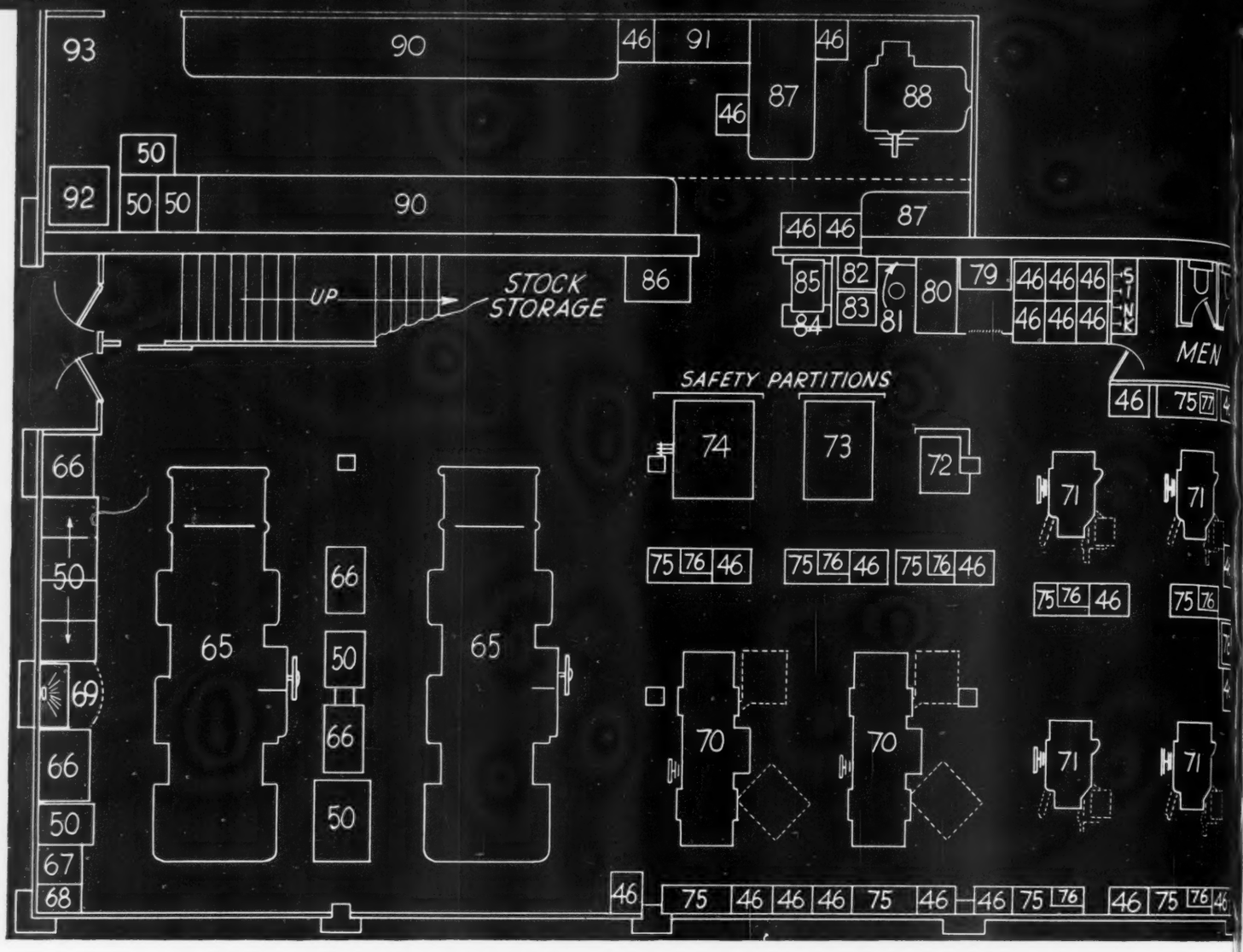
modate long double column galleys, or page galleys. It is used to quickly transport a large quantity of galleys from one point to another—instead of a man walking with one galley at a time. This transfer rolling galley rack is to be used for transport only—not for storage. It must be used for its intended purpose, and then released for availability for any other stonehand or compositor.

Cut cabinets are conveniently placed for composing room or the office. The top being flat it can accommodate many galleys of type as a transfer bank to composing room on live production.

Metal furniture cabinets are indicated at the stone and at the type cabinets. The large Vandercook proof press is strategically located for all compositors. A rotary miterer is centrally placed for all compositors. A cylinder furniture cabinet is placed conveniently for the three active cylinder stones. Length of furniture: 70 picas and longer.

The storage area, holding 3900 page galleys is so centrally placed that any galley can be obtained quickly for the stone without "bottle-necks," confusion, or damage; and yet requires very few footsteps. The proper distribution of galley storage to its related stone saves wear and tear on man and material . . . and great economy of time.

Job Flow—The smooth flow of jobs from compositor to stoneman follows one of two courses. The one course has just been described. The other course is the job work. This may go to the job stone, or corner steel stone. If there are any corrections (hand, Linotype, or Ludlow) it is just a step to get them. If it requires a better join on a miter, or something to be trimmed better, it is just a step to saw or miterer. It is just a step to bring the form to the dumb-waiter, or form rack.



First Floor Equipment Layout in Plant of United Printing Company, Los Angeles, California. Ground floor area is 54 ft. 9 in. by 76 ft. 10 in. This ground floor space, not being as large as the second floor area, made it necessary to engineer the plant layout as shown in these two diagrams.

Pressroom:

46—Standardized Rolling Stock Tables. (Each holds 500 lbs. of 22x28 in. stock in three sections.) See Mr. Greer's explanation in accompanying article.
50—Skids
65—No. 46 Miehle Press
66—Work Tables
67—Roller Cabinet
68—Cylinder Forms
69—Markout Booth
70—Miehle Horizontal Press
71—Miehle Vertical Press
72—8x12 Chandler & Price Press
73—12x18 Kluge Press
74—14x22 Colts Press
75—Work Table
76—Steel Work Surface
77—Hacker Type High Gauge
78—Glass Top Lineup Table
79—Markout Booth
80—Foreman's Desk
81—Job Tickets
82—Table
83—Form Rack
84—Ink Cabinet
85—Dumb Waiter
86—Machinist's Bench
87—Stock Waiting for Orders
88—44 in. Dexter Cutter
89—Cutting Table (Scrap bins underneath)
90—Stock Shelves
91—Shipping Table
92—Paper Baler
93—Outgoing Waste Paper Bales

and then drop the job-ticket on the foreman's desk.

This entire setup works very well for the least amount of fatigue on man and foreman. It makes it almost impossible for the foreman to miss out on progress of work, or in observing entire staff.

A Rouse Line-up Table is essential to get quality control with minimum loss of time in either pressroom, or by stoneman. The job and cylinder form rack is in an ideal location for stonehand, foreman, dumbwaiter, and elevator. It is tucked out of the way. The job rack has upper and lower decks, to hold live, standing, and dead forms.

The superintendent is quickly accessible to foremen of all departments, which builds up a tighter supervisory control.

As you are to have your metal supply company replace new pigs for your old slugs, you will have no remelting problems. Platform scales are the requirement to prevent any capital asset leak in metal turnover, along with proper records.

Distribution of floor load has been made as safe as possible but check with contractor for structural weakness.

The Pressroom

AS IT was the choice of management to place machinery to have production flow going toward exit of finished work—in preference to having machinery placed in relation to daylight falling upon the delivered sheet in press—we designed the layout with this preferred stipulation. The entire pressroom is to have a heavy cement floor.

The cylinder section has no interference from the job department, yet the foreman is central to all departments. Work tables, skids of stock, form rack, roller and ink cabinets, and mark-out booth are located at convenient points.

Individual Steel Work Tables—The Horizontal, Vertical, and jobber presses are centralized and conveniently located. These presses have indicated a small work table behind each press. With the exception of the Horizontals, there is a

work top indicated behind each press that is laid on top of this work table in a convenient position. It should be of steel, at least 1½ in. thick, with a milled surface. The size should be just large enough to accommodate the chase for that particular press. What this means to a pressman is priceless. He can make changes, take out a cut, or make an underlay, rejustify some spot, square up his form, register parts of his form, plane down a springy form, correct workups, etc. The pressman will not have to carry his form to a large stone on some other part of the floor, where that stone might already be crowded by pressmen using it. It has been found, too, that a large stone is a convenient dumping point for cut stock, incoming packages, ink storage, or cut storage, so it becomes a catchall, and is many times in a useless condition. Lifting and carrying heavy forms a few times during the performance of the job will wear down the morale of any pressman. By inverse ratio the morale of a pressman rises by this small private stone behind his own press. No walking, no congestion, privacy of his own work. This one method and procedure in a job press department will improve quality, morale, and production. The cost of these small steel slabs will be absorbed in the matter of weeks. The work table is designed to carry this steel stone on one part of the top. It will have enough remaining surface area to be of value as a table surface without interfering with the stone that is on it. It will have room below on several shelves for tympan sheets, packing, tissue, press boards, etc. A flat drawer will hold a small can of paste, sharpening stone, tools, wire brush, bristle brush, spare parts, and suckers for feeder, etc. A narrow vertical opening can hold one form for a "stand-by" (the next job to be run.) An individual oil can, kerosene can, small wiping cloth can, can be at the bottom, or floor level of the work table.

Rolling Tables—The tables marked with Figure 46 and the letters R T, are rolling tables. These are made on a uniform basis for the entire pressroom and bindery. This method will defeat the economic liability of a two-floor operation between pressroom, bindery, and shipping department. These rolling tables are all interchangeable and must be standardized in size. In theory, it is a box with the top taken off, leaving five sides still enclosed; and then placing this box on its long side and putting four small rollers on it. As it is to be used throughout the plant, it should handle the maximum size of press capacity (excepting for the cylinders, which will use skids and hydraulic lift truck.) These rolling tables should hold 22x28 stock inside—and also can carry more stock on top. To reinforce this table, it is necessary to put a shelf through the center of the box. The box now has a lower shelf, an upper shelf, and the table top. This can give three groupings of paper on one rolling table. The reinforcing center shelf also serves to protect the stock in this table while in transit. It prevents falling out on uneven levels of floors; or around curves when being transported rapidly. The table is used to start with its own job from the cutting department, where stock is cut to size for the press. It can hold 500 lbs. of paper, and is then rolled into the accumulation center by pressroom foreman's desk. At the proper time he authorizes a release, and it goes to the proper press. It is then rolled right to its press, and is used as its own stock table by that press until the stock has been consumed. A similar table can be accumulating the printed sheets for a later press run—or to bindery, or shipping. But from the time it was cut *nobody had to touch that stock until loaded into feeder*, yet it was rapidly moved several times. There was instant availability of transport at any moment. That meant no effort, no hunting for a hydraulic truck, no hunting for table space near the press, no soilage nor waste, yet instantly available by foreman, pressman, bindery, or shipping. This one operational method and procedure will add a clear 1 to 2 per cent profit on the year's total volume from pressroom and bindery—and reduce waste another ¼ of 1 per cent additional. These roller tables should be at least 22x28 inside measurement. Each should have two stationary steel rollers, and two swivel steel rollers. Keep center of gravity low by not building higher than necessary. The top should be about 32 in. high. Paper should be loaded inside first. Then if the job takes more space, it can be loaded on the top so that it does not go above 40 or 42 in. This means about 600 lbs. capacity. The table top could be covered with sheet metal, making it ideal for jogging stock when top is cleared, and giving pressman extra table space on which to work while on the run. Four of these trucks easily fit on the freight elevator at one time, and thereby neutralizes the delays incurred by the bindery being on the second floor.

The pressroom should have a Hacker type-high gauge for pre-makeready operations, as this system again will save more non-productive time on fast presses. All line cuts and halftones are underlaid by the pressman or foreman before going into the composing room.

Markout Booths—There is a markout booth for cylinders and one for the job department which will save much time by the controlled light that is covered with the correct type of shade, and placed at the proper angle. All other light is excluded. This gives a speedy analyses of indentures of the sheet to be marked out. A pressman can make each "ring" count. This system may save one extra spot sheet on many forms during the year. The presses get started faster with better makeready, and fewer stops in "spotting up" during the press run.

Small Press Register Table—A small glass top register table by the Vertical presses is a priceless piece of equipment. With a square, a large and small triangle (30-60 deg.), and a good straight-edge, it will save wasting hours of the stoneman's time, as he is not bothered until the sheet has about a perfect line-up. Then it is sent to stoneman, for final position OK. For registering of color forms right by the press it can be seen that hours and hours will be saved during the year. This table should be large enough for at least a 22x28 sheet, as the cylinders will use the Rouse line-up table.

Supervisory control is easily maintained as every requirement for economical production is at his finger tips in his centralized location. This removes much of the supervisory delay factor.

Receiving and Stock Departments

THE 44 in. Dexter cutter is indicated, along with cutting table. The several scrap bins are underneath this table for speedy operation and proper segregation of scrap. There is room for several rolling tables by the cutter. There is a "waiting table" where stock can be placed awaiting final instructions, or OK, to cut, without interfering with the present work in process. Convenient to the cutting table is a shipping table, so that flat work that does not have to go to bindery for any operation, can be given final trim, or cut, and packed for shipment right at that shipping table. This does not mean that there are two shipping departments, but this one on the

Spherekote Tympan For Press Perforating

IT IS likely that most pressmen who have been bothered with the strippers tearing off the top sheet which had swelled and burst where perforating rules had forced ink into it until it softened and gave way will be glad to know that Spherekote tympan used with perforating rule of correct height copes nicely with this old problem.

The correct height of rule for press perforating in a mixed form is about a sheet of manila tympan less than type high.

The cylinder is packed in the regular way but with Spherekote for top drawsheet. The first trial impression for the first overlay should show just a faint print of the perforating rule but with no embossment on the reverse side of the sheet. When the sheet is marked out, overlay patches attached and ready to hang, two thicknesses of thin gummed tape or one of the thicker may be attached to the impression of the perforating rule. This is to make it print strong enough for marking out for the second and last overlay when the rule should print sharp and clear like the type in the form. Finally, another strip of tape may be added opposite the perforation to make it bring about a clean tearing of the sheet when needed.

main floor is an auxiliary shipping department to the main one in the bindery. All records and receipts are maintained at the one point upstairs, and accountability for operation and records of both shipping points are placed under one head. This auxiliary shipping point is to relieve some of the traffic and congestion that would be increased if everything had to go upstairs, and then come right down again to ship. This method will prevent much congestion and wasted time.

There is a large capacity of stock shelves indicated. The lowest should be about 30 in. from floor. This will permit cases of stock being opened to draw from as inventory material. The cases, naturally, must rest on 2x4 skids, to allow air space underneath and prevent any dampness from penetrating case. Against back wall of the cutter, and along each side where convenient, can be placed narrow shelves to hold odd-lots of paper cuttings, and cut-offs, where it can present immediate checkup to see if any lot can be used in place of full sheets.

A pressroom and bindery of this size will produce a certain quota of waste paper daily. There will be a fire hazard if it is not controlled. Furthermore, there isn't an inch of space to waste with bags and cans full of loose paper piled up in some corner. A small paper baler is indicated, and a place to hold the bales. It is desirable to remove this bale accumulation daily, or at least every other day.

Bindery

THE entire bindery layout is very simple to analyze, it being self explanatory, as the factors previously described are fairly well incorporated in this department, also.

Fluorescent Lighting

IN the Composing Room—2-tube, 48 in. fixtures. Height over banks and stone, 36 in.; height over type cabinets, 36 in. above makeup surface, at its mean level of the angle of pitch; general illumination, 90 in. from the floor.

Pressroom—The cylinders require a 3-tube, 48 in. fixture. The type of fixture is to hang over the extension delivery, and is to be placed the long way of the fixture paralleling the long way of the delivered sheet. Height approximately 40 in. above height of delivery level of sheet. A 2-tube, 48 in. fixture to be placed centrally over the guides and feed board; lengthways of fixture to run the lengthways of press. High enough to clear upswing of feeder frame and feed-board, and room enough for pressman to work on his packing. A third 2-tube, 48 in. fixture should be placed over the feeder, making three fixtures for each of the cylinder units. The Horizontals: A 3-tube, 48 in. fixture should be placed over delivery, and a 2-tube fixture extend from guides over to the feeder. The height to be on the same formula as for cylinders. Verticals: A 2-tube, 48 in. fixture, extending lengthwise over feeder and delivery; 90 in. from floor. Each jobber would benefit with a 2-tube, 48 in. fixture, 90 in. from floor. General lighting fixtures should be 90 in. from floor.

Bindery—Can follow this same formula using 2-tube fixtures. The cutter could have a small 60 or 100 w. mazda light with narrow shade fastened just above steel tape dial indicator. This makes for accurate reading of indicator, and also throws a flood of light right at edge of operation that is valuable for accuracy, speed of production, and safety to operator.

Electrical

EACH press should have a 110-v. light line coming in at the same point as the 220 v. power line. There should be two permanent lights with shade fastened under each cylinder feedboard—one on the right, and one on the left. With a new type swivel-socket anchored in a 3 in. box, and fastened to the feedboard side-frame. These small lights are tucked out of the way of the pressman and he can more easily work on his forms. It will save error, speed production, prevent possible damage to man or machine. There should be a receptacle plug-in for a trouble-light at all the presses. This plug-in can be used for trouble-light, sprayer, etc.

Summation

THERE have been presented elements of efficient methods and procedures. As each of these elements are used, they pay their way financially. Your added dividend is highly improved labor morale. While you can buy equipment that is "tried and proven," it is quite another matter to get your craftsmen in sufficient a quantity that is also tried and proven. Men of this type are also wanted by your competitor. A plant that makes its work safe, labor-saving, and efficient (with the proper equipment and methods), can make the good craftsman stick with his job. This reduced labor turnover is another tremendous item of importance, superinduced by the improved morale that this type of organization yields both to employees and management, individually and en masse. Whether sharp competition again prevails, or whether world unrest may create another labor shortage, you will be firmly entrenched to get the greatest man-hour return on your production dollar—both in quantity and quality—with the least amount of drive by your supervisors or labor effort by your men.

Recommendations

WE recommend that you consider the following:

"Preventive" Maintenance on all equipment and motors.

It is recommended to install a simple efficient inter-com phone system between departments, and with the superintendent.

It is recommended that interiors be painted, including equipment, with a color scheme that is most satisfactory from an industrial standpoint. It should tend for good reflectivity without glare; a spick-and-span appearance of plant; ease of keeping clean; ease of touching up when needed. It has been found that ceiling and walls reflect a good soft light when painted with cream-colored paint (rather than blue-white). Walls to be painted from floor up to 6 ft. height with a blue-gray (which is a richer shade than battleship gray). Equipment painted with this same shade of blue-gray will take any riff-raff look away from your older equipment and bring it up to a harmoniously uniform looking plant. This method has transformed many junky looking plants into beautiful installations.

Management-Labor Conferences once every two weeks for the general welfare of everybody. This is the constructive way to meet and solve arising problems while they may be still small. Valuable ideas are presented many times at these meetings. One elected craftsman (elected for three months by men of his department) from each department and his foreman meet with the superintendent and at least one of the officers of the administrative staff. The business will never suffer by this move, as long as labor is shown proper consideration at these meetings, and executive decision and action is forthcoming on all matters requiring it.

This size plant cannot be run as a one-man administrative controlled plant. It is too large, and would overtax any one man. Build up an organization that can carry the load. Build the organization chart with selected men, delegate the proper authority to them in either functional or line authority, hold them responsible for proper execution of authority. No one should jump the line of authority in by-passing an executive to a man under him. The administrative side looks to the superintendent for information on plant activities; superintendent looks to department foremen; foremen are responsible for the operation of workmen.

Production details are out of the realm of the administrative function in a properly operated plant. Talent is employed to do that. Instead—policies of management, sales and executive decision are the forte of the administrative faction. These factors must not be neglected as a business is creeping up in size.

Cut-outs For Heavy Solids

THE cut-out is used to relieve the impression on the edges of the print of a solid which bear-off prevents the center of the solid from printing strong. After regular makeready is completed an impression is pulled on a sheet of manila tympan which calipers 0.006 in. or 0.007 in. All paper outside the print of the plate is cut away and the edges of the print are beveled or skived a trifle. This cut-out is attached in register to the point sheet. A sheet of manila is placed beneath the form so that the cylinder and form may travel in unison in respect of the pitch line of their gears.

EQUIPMENT & SUPPLIES

Improved Little Giant Press

AMERICAN Type Founders has announced production on an improved model of the Little Giant press. With a sheet range from 3¼ in. x 5½ in. to 12 in. x 18 in., and a printing area of 11¾ in. x 17½ in. Press speeds are claimed to be 2500, 3500 and 4000 i.p.h.

President E. G. Williams said that a test press has been in commercial production for more than a year in the plant of the Rothchild Printing Co.

Some of the improvements listed are: Abutment pieces over the points of the adjusting screws on the ink fountain which prevent the screws from wearing the blade and provide an even setting of the fountain; knurled head operating screws under the roller sockets provide up and down adjustments; height gauge controls stock from the back of the pile, finger tip adjustment sets the pile for continuous feeding of stock from onionskin to 4-ply card; micrometer side guides can be adjusted while press is running, overhead guide bars have been removed, small or large sheets can be run with the same side guides, feed board and conveyor lift up in one operation; graduated scales have been placed on the feed board, feeder and delivery.

Further improvements announced are: double rolling is accomplished with the turn of a plunger outside the press while press is running; 2 in. rollers are used and form roller and distributor rollers are interchangeable; automatic delivery lowering device; reciprocating carriage delivery provides extra travel for the sheet, three sheets are exposed to reflector type heater; feed bar has six suckers to feed stock; improved delivery gripper bar, a 1½ h.p. motor operates both press and blower; envelope feeding attachment; holder for press rollers is attached to gear side of press; caliper prevents more than one sheet feeding at a time; tool rack is on side of the press; covered housing encloses moving parts; bed shoes may be replaced, cylinder can be reset by pressman; outside stripper finger and outside blast pipe adjustment can be made while press is running; sheet bands can be moved from side to side; Challenge Hi-Speed quoin is used to lock plate on bed of press.

Improved 22x34 Single-Color Willard Offset Press

GREATER accessibility, ease of adjustment and continuous operation have been primary considerations in the design of the improved Willard Offset Press, states Printing Machinery Div. of Electric Boat Co. Rated speed of the press is 6,000 i.p.h. William Gegenheimer, Technical Consultant for the Electric Boat Co., and well known in the lithographic industry, is the inventor of the Willard Offset Press. In 1934, after his son, Harold had graduated from Georgia Tech as a mechanical engineer, they started actual work on the first press. Harold Gegenheimer is Supervising Engineer of the Printing Machinery Div. of the Electric Boat Co.

Shown here is ATF's improved Little Giant Press. The feeding and delivery mechanisms are shown in this view.

In 1946 the Electric Boat Co. purchased the press as a peacetime product to build for the Graphic Arts Industry. The company is said to be America's oldest and largest civilian builder of submarines and PT boats.

The newly designed Willard feeder handles all varieties of stock ranging from thin paper to cardboard. It is of the sheet-by-sheet reloading type. Feeding is from the pile, by the combing and suction method. Manufacturer states ample suckers, combined with sheet comber type separators at both rear corners of the pile provide maximum control. Feeder holds 43 in. of paper and is adjusted for different sizes and weights of stock. Front suckers forward the sheet after it has been separated from the rest of the pile by the combers and rear suckers. A blast of air floats the sheet as it travels into the pull-in wheels, carrying it to conveyor tapes operating over the composition feedboard to the registering mechanism. Control of the sheet from feeder to registering mechanism is obtained by hold-down wheels, brushes and guide bars which are mounted as a unit on a pivoted frame.

Progress of the sheet is slowed-down in its forward travel over the feedboard by pre-register slow-down guides which meet the sheet and transmit it to a slow stop square to the front guides. The sheet is side registered by a pull side guide. Side guides on each side of the feedboard register either side of the sheet.

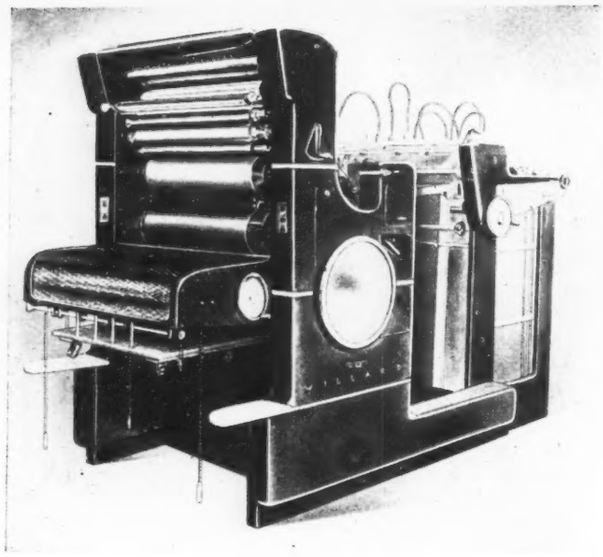
In the inking unit there are four form and distributing rollers of large diameter. Ink distribution is obtained by the train of vibrators and distributors leading to the form rollers. Form rollers mounted on anti-friction ball bearings of different diameters to eliminate roller streaks and make possible smooth lays of ink from heavy solids and tints to combination large fine halftones and line copy.

The ink fountain holds an ample supply of ink for the heaviest transfers and may be quickly cleaned. The inker is driven from the press main drive leaving the cylinders free to do the printing job. Ink fountain and form roller throw-off and on, is automatic.

Dampening motion control is accomplished by an adjustable cam. Water fountain roller and the intermediate vibrating roller are both chromium plated. Dampeners are mounted on anti-friction ball bearings. A small hand crank on the operator's side of the press is used to adjust the length of dwell of the ductor roller against the fountain roller.

All cylinders are mounted on precision tapered pre-loaded Timken roller bearings. Manufacturer also states cylinders are accurately ground, ruggedly constructed and are balanced for high speed operation. Gear streaks and poor transfers are discouraged by driving the inking and dampening units from the main drive and equipping the cylinders with backlash gears.

The impression cylinder is equipped with individually sprung grippers which are opened and closed by cam action. Setting between blanket and impression cylinders for different thicknesses of stock is accomplished by operating a hand



View of improved Willard Offset Press. Size, 22 in. by 34 in. Rated Speed, 6000 i.p.h. Finished in enamel—vista green for the body, yellow for the controls, red for lubrication points, and buff enamel to improve appearance.

wheel on the operators side of the press. The setting is shown by a calibrated scale and pointer.

A T wrench is used for clamping the plate, stretching the plate around the cylinder and swinging the plate on the cylinder for accurate register. Plate cylinder adjustment in relation to the cylinder drive gear is accomplished by the use of a key wrench. A T wrench is used for tightening the blanket around the cylinder by means of a worm and worm gear. The blanket can be reversed on the cylinder without removing the blanket bars from the blanket.

The inbuilt automatic receding pile delivery will hold up to 24 in. of paper. Spring grippers mounted on chain-operated gripper bars carry the sheet the full length of the delivery. It is then released allowing the air to cushion the pile while it is being jogged into position.

Color is used on the Willard Offset Press. Vista green enamel is used for the body of the machine. For contrast, yellow is used to make the press controls stand out and red is used at points of lubrication. Buff is used at certain places to increase the appearance of the machine.

Most working parts of the press which are not adjusted for normal operation are covered.

The press proper is mounted on a one-piece welded steel base. Side frames are jig bored for accurate cylinder alignment.

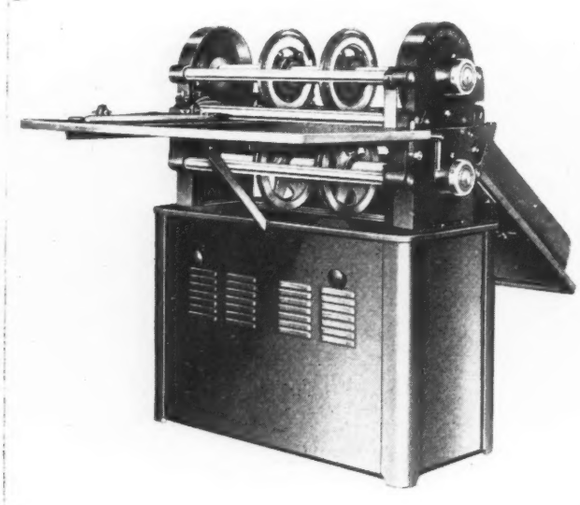
Press drive is by V belt from variable speed motor. Automatic electrical control provides fifty per cent speed adjustment and automatic slow-down when the press trips. Stop, run and jog buttons are provided at two locations. An extra jog button and light are placed under the back cylinder for the convenience of the operator.

Drive motor is 5 h.p.; feeder motor is 1½ h.p. Floor space required, 6 ft. by 10 ft. Height, 6 ft. 8½ in. Net weight, 8000 lbs.

Further information may be obtained from Printing Machinery Div. of Electric Boat Co., direct, or through *Printing Equipment Engineer.*

Pony Rotary Perforator

THE Rosback Pony Rotary Perforator is built in three sizes to take paper sheets in maximum widths of 24½ in., 28½ in. and 30½ in. and minimum size of 8 in. by 8 in. Perforating is accomplished by upper and lower perforating heads which mesh together and operate in unison. Upper head contains perforating punches, lower head contains perforating dies. Paper is fed between upper and lower perforating heads and perforations are cut by shearing action. Continuous perforating can be done on sheets of any length. The machines will do strike or skip perforating on sheets up to 30 in. long. From two to 10 sheets can be fed at each lift depending upon stock. Perforator is operated by ¼ h.p. motor. Minimum distance between perforating lines is 2 in. Further information may be obtained from the F. P. Rosback Co. or *Printing Equipment Engineer* will be glad to forward your request.



Shown is the front view of Rosback's Pony Rotary Perforator. Made in 24½, 28½ and 30½ in. sheet width sizes.

Steam Humidifier

Techtmann Industries, announce the development of the Humid-O-Matic steam humidifier, manufactured by the Skilbeck Mfg. Co. The Humid-O-Matic automatically controls humidity at desired percentage during heating season. Operable on 1 to 10 lb. pressure. It is claimed that by adjustment of a small screw at the top, the Humid-O-Matic will diffuse up to 20 gal. of water in 24 hrs. with 5 lb. pressure, while a larger model diffuses up to 100 gal.

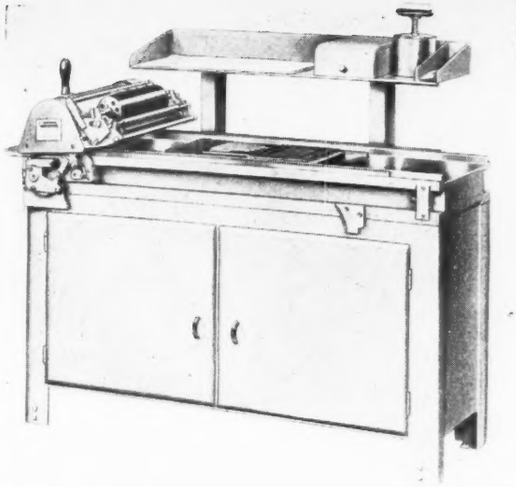
View of Humid-O-Matic which automatically controls humidity during heating season.

Manufacturer also claims the Humid-O-Matic prevents air from entering the system when steam pressure drops below atmospheric pressure point, and shuts off when condensate cannot return fast enough to prevent overflowing. Surplus condensate is returned to the supply line against higher pressure.

Further information may be secured from the Techmann Industries or *Printing Equipment Engineer* will forward it for you.

Hand Operated Proof Press

VANDERCOOK & SONS, INC., states its hand proof press turns out 20 good proofs per min. This press, while suitable for galley proofs of machine composition and made-up pages,



The No. 05 Vandercook Proof Press, hand operated and with automatic inking on which it is claimed 20 proofs per minute can be printed.

is also said to be capable of giving good quality proofs of halftones.

Automatic inking roller and impression cylinder trips contribute to good production. In operation, the impression cylinder is automatically tripped when moving from right to left to ink the form. Similarly, inking rollers are tripped each time the cylinder carriage travels from left to right to take an impression.

President E. O. Vandercook said, "This Model No. 05 press was made with two objectives in mind. First, as alternate equipment in plants where production does not call for the capacity of the power-driven equipment. Secondly, to provide a press requiring no adjustments. Manufacturer states: "Another feature of the press is that there is no cylinder packing to be changed, since it is equipped with a 3-density vulcanized rubber impression cylinder which will last for about five years, as well as giving good proofs of forms on galleys that vary considerably in thickness."

Bed size of the press is 15 in. x 26 in.—large enough to take a sheet 14¾ in. x 28 in. and form 14 in. x 24 in. Floor space required is 2 ft. x 5 ft. 4 in. Under the press is a steel storage cabinet. A steel shelf is mounted over the cylinder.

Catalog Available

THE Elwell-Parker Electric Co. has issued a catalog of basic models of materials handling equipment for 1947. Illustrated are 31 models, with specifications, including low-lift, with and without crane units; high-lift platform trucks; fork-type; cranes, stationary-bed load carriers and tractors. Copies are available from the Elwell-Parker Electric Co. or *Printing Equipment Engineer* will forward your request.

Color Folder

AN attractive folder entitled *Color in Electromagnetic Energy* has been published by the Sun Chemical Corp. The relation of the visible light spectrum to the whole electromagnetic spectrum is presented with a simple diagram, and brief descriptions of the applications of the various wavelengths from X-Rays through ultraviolet, visible light, infrared, short and long wave radio waves.

The function of color chemistry in making color available in a wide range of inks, paints, and finishes is briefly outlined. A chart showing 17 metals and their derived pigments is included.

Copies of the folder may be obtained on request to the Sun Chemical Corp. or *Printing Equipment Engineer* will be glad to forward it for you.

N-D Feeder-Perforator-Jogger Combination

NYGREN-DAHLY Company has announced the N-D Feeder-Perforator-Jogger combination, a three-in-one unit for the production of snap-out and cut-out slot hole perforating, crimping, slotting and scoring.

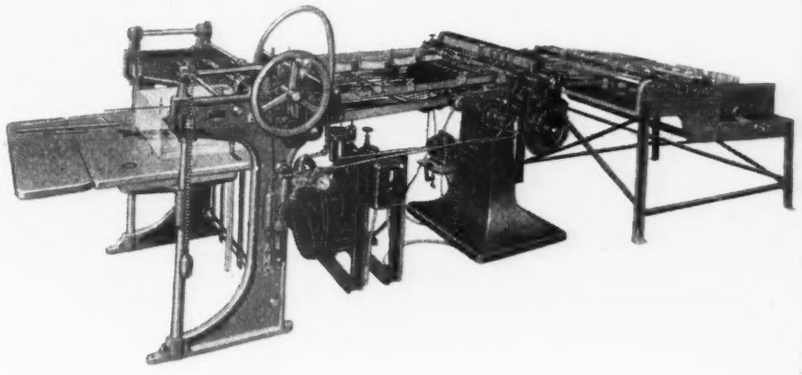
Being entirely automatic throughout, this combination unit is said to reduce job time substantially through elimination of several manual operations which are involved when separate machines are used for perforating and jogging.

The unit is reported to be capable of handling up to 7500 sheets per hour of 11 in. by 17 in., or 17 in. by 22 in., running the 17 in. way. Production speed on larger sheets is proportionately high, depending only upon the length of the sheet. Weights of stock up to 3 ply index bristol may be handled.

In the announcement it is stated that perforations produced by this machine are ironed out flat so the sheets do not stick together, thus permitting perforating to be done before printing.

Further information may be obtained direct from Nygren-Dahly Co., direct or *Printing Equipment Engineer* will be glad to forward your request.

View of Nygren-Dahly three-in-one combination unit for automatic feeding, perforating and jogging of printed or unprinted sheets. Manufacturer states machine will handle up to 3 ply bristol. Feeds, perforates and jogs paper at speeds up to and over 5000 per hour.



Photographic Analyzer

THE Weston Photographic Analyzer, consisting of a densitometer, an illumination meter, and a calculator, has been announced by the Weston Electrical Instrument Corp. The instrument has been developed to enable photographers to make prints, enlargements, and color photographs by any process by instrumentation.

The Weston Photographic Analyzer enables the operator to construct his own time-gamma curves for color printing. It balances the printing times of color separation negatives, and determines what adjustments may be required in filter factors. It shows precisely the degree of density or contrast range to make masks for overcontrasty transparencies. In color printing it assures the correct balancing of separation negatives.

By means of the Analyzer's measurements, it is claimed the photographer can appraise the value of negatives as to density and contrast range. The user can calculate, in terms of his own equipment and working conditions, the exact contrast ranges of printing papers, and match the correct grade of paper to any particular negative. It determines the printing exposures, and controls many other processing operations designed to produce technically correct pictures in either black-and-white or color.

When the Analyzer is used as a densitometer, a double-condenser optical system inside the case directs a concentrated and controlled beam of light upward through a tiny aperture in the viewing plate, over which is placed the negative whose density is to be measured. Above this, a movable arm carries at its end an integrating cone and a photronic cell. When the portion of the negative to be measured is in position, the arm is lowered into contact with the negative, so that the beam of light from beneath

View of Weston Photographic Analyzer, which can be used as a densitometer, an illumination meter, and a calculator.

can pass through an aperture in the integrating cone and impinge on the photocell.

This photocell is connected to a built-in meter calibrated in actual units of density. The contrast range of a negative can be determined by measuring its maximum and minimum densities. Or, the minimum density alone can be used, in conjunction with the previously measured paper speed and the illumination intensity of the enlarger or printer, to ascertain the exposure.

The Analyzer can also be used as an illumination meter, to measure the illumination on the enlarger easel when the enlarger is set to any combination of magnification and f: stop, or that of the printer platen when one or more light levels are employed. To do this the photo-cell is removed from the movable arm and placed on the easel or platen facing the light source. The intensity is then read on the Analyzer's meter scale, which is calibrated in meter-candles as well as in densities.

In these ways, the operator obtains essential measurements in relation to his own equipment. Paper speeds and contrast ranges are also determined in terms of his particular type of enlarger or printer, developer formulas, and processing techniques. With the Weston Analyzer, each grade of any brand of paper can be calibrated for speed and range, and successive batches can be checked to determine how much, if any, variation may occur from time to time.

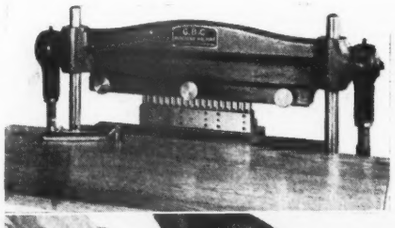
By establishing the exact contrast ranges of both negatives and printing papers under his own equipment and working conditions, the photographer can accurately choose the correct paper to obtain the utmost from any negative, and can also determine the precise exposure for that particular combination.

A calculator is supplied with the Analyzer, which shows values of negative densities, paper speed numbers, meter-candle illumination, and printing times. This calculator is provided with rotating dials and fixed scales, the manipulation of which reveals the correct figure representing the unknown function, whether paper speed, exposure time, or filter factor.

Paper Punching Machine

A POWER paper punching machine has been announced by General Binding Corp. This machine, it is claimed, speeds up punching of catalogs, booklets, brochures and sales promotional literature to be bound with Cercla (in metal) and Cerlox (in plastic) mechanical bindings, and permits rapid changing of punching dies.

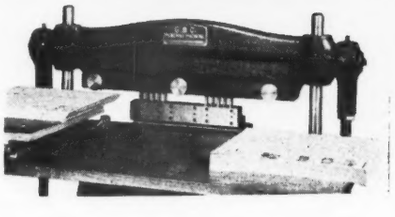
Every step of changeover from one style of binding to another, takes place at the front of the punching head, without resetting of the die blocks in the machine. The punches are accessible by loosening three knurled locking bolts which hold the punch plate in position. This exposes the punches which can be inserted or removed. A side point guide, it is said, provides easier and faster paper alignment. Further information may be secured from General Binding Corp. or *Printing Equipment Engineer* will be glad to forward it.



On the punching machine for Cercla and Cerlox mechanical bindings a punch head permits punches to be easily rearranged without removal of punch blocks, and the side point guide is said to insure more accurate punching.

Punching arrangement is accomplished in three steps. Three knurled locking bolts and punch plate are removed to expose the punches.

Punches are added or withdrawn for the desired punching arrangement.



With punch plate replaced, the machine is ready for operation. Total time, 45 sec.

Tru-lock System

A METHOD of preparing type forms for the electrotype foundry has been announced recently by George E. O'Leary, Production Manager of Howard H. Monk & Associates. Sponsor states that forms may be prepared for the electrotyper in about 1 min. by using the Tru-lock bars.

Four precision machined steel bars which interlock at the corners are used in the Tru-lock system. The bars are designed to allow for variation in type form size up to ½ in. in width and/or depth. Their use is asserted to insure accuracy in makeup.

The bars are ⅜ in. high and ½ in. wide. The two side bars are fitted with four stout pins at either end; the top and bottom bars have four holes corresponding in size to the pins drilled in either end. The bars are so made that they are 0.918 in. high when inverted. The side bars can be brought up to type high when the electrotype molder places auxiliary magnetized bars on top of the side bars.

The bars are made in sizes varying ½ in. in length. Two male and female

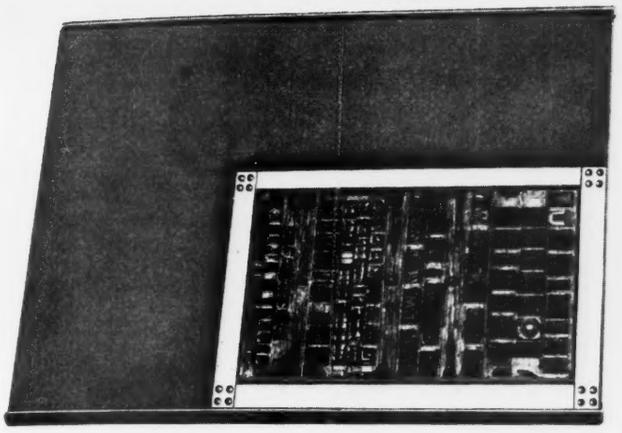


Fig. 1.—Adjustable Tru-lock bars placed about a type form that is ready for the electrotype foundry. They are made in sizes varying by ½ in. in length.

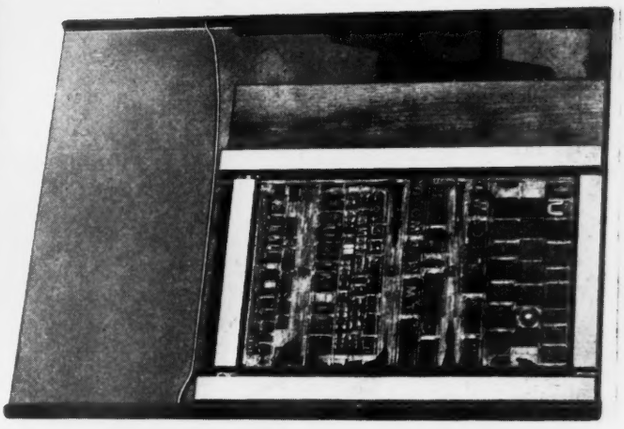


Fig. 2.—Type form ready for electrotype molding, showing top and bottom bars inverted to serve as foundry bearers. When in this position, the side bars may be brought up to type high by placing magnetized auxiliary bars on top. Form may be molded on galley or slid off to molding table.

bars are required for each type form. An example of size variation would be as follows: A set of 7 in. by 10 in. bars could be used for pages 7x10, 7¼x10, 7¼x10¼, or 7½ in. by 10½ in. No matter what the length, any female bar will interlock with any male bar. As is stated above, when in normal position, four pins fit in four holes; when it is wished to extend the inside page area two pins fit into two holes.

In the electrotype molding process, the type may be left on the galley. However, the type form may be slid from the galley onto the molding table. In the latter case, it would be necessary for the electrotyper to bring up the side bearer bars to type high by placing the magnetized bearers on the side bars.

A container made from heavy gauge metal for shipping type forms has also been provided by Mr. O'Leary, who states that any damage to the type form is eliminated while in transit.

Further information may be obtained from George O'Leary direct in care of Howard H. Monk & Assoc., or *Printing Equipment Engineer* will be glad to pass along your request.

Granite Imposing Stone

THE Herman Stone Co. has a granite imposing stone available that differs from marble in that it is composed of large percentage of quartz. This is claimed to make it more rugged for use in the plant. The standard sizes in which the plate is available are: 27 in. by 31 in. by 2 or 3 in. thick; 39 in. by 65 in., 51 in. by 75 in., 54 in. by 78 in., by 3 or 4 in. thick. Other sizes are available upon request. Qualities claimed by the manufacturer are that it will last indefinitely, the surface is made with accuracy, it will not corrode or rust and it can be cleaned.

Stones may be secured as a replacement. Stands are available to hold the stones. More information may be secured from the Herman Stone Co. or *Printing Equipment Engineer* will be glad to forward your request.

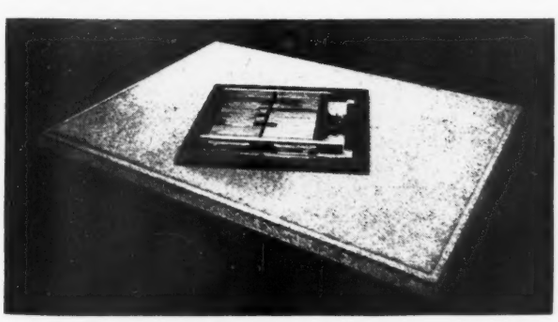
View of Fire Extinguisher Guides with data about Carbon Tetrachloride, 1 qt. extinguisher visible through slot in case.

Fire Extinguisher Guide

A SELECTOR guide has been prepared by the Randolph Laboratories to give quick answers about fire extinguishers. The important facts about the suitability, maintenance and performance of Soda-Acid, Foam, Pump Tank, Dry Powder, Loaded Stream, Carbon Tetrachloride and Carbon Dioxide fire extinguishers are presented on the data guide.

A rigid envelope which is slotted shows the answers on an enclosed card. The answers to the care and use of the fire extinguisher selected are visible through the slot when the card is withdrawn.

This guide is an aid to safety directors and plant managers. It is also helpful in employee fire-fighting instruction. Single copies are available upon request to the Randolph Laboratories, Inc., or *Printing Equipment Engineer* will forward it for you.

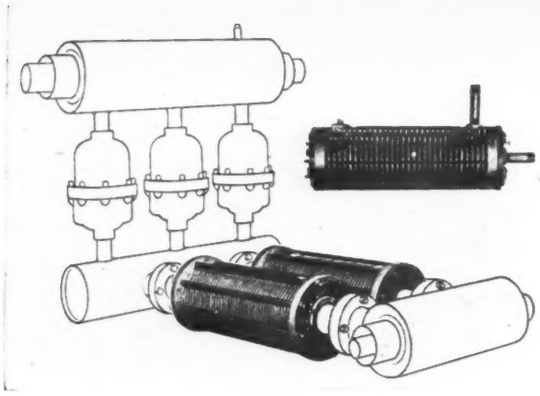


Shown here is the granite imposing stone of Herman Stone Co.

Printer's Hand Soap

THE Cromwell Paper Co., manufacturers of Cromwell Special Tympan, has announced a new product, Cromwell Printer's Hand Soap, which is being placed on the market. Made for the graphic arts, the new soap, we are told, takes off printer's ink and other stains without rubbing or scrubbing. It is claimed to be quick-acting, yet gentle on ink-smeared hands.

Slightly alkaline, it is claimed the soap will not harm tender skin. Packed 1½ lb. net weight in can, 24 cans to the case. Cromwell Printer's Hand Soap is distributed by Cromwell Tympan merchants.



400 cfm Compressed Air Airidizer equipped with Goodyer Pur-O-fiers.

Goodyer Aridizer

GOODYER INDUSTRIES, Inc., has announced the Goodyer Aridizer. In one unit the Goodyer Aridizer offers the principle of heat transfer for the heating of both air and gases, as well as for the superheating of steam. Temperatures up to 1000 deg. F. can be maintained with control of leaving temperatures held to within plus or minus 1 deg. F.

The heating of compressed air for drying and dehydrating is made possible by the bilateral fin design of the unit. The effect of drying and dehydrating by compressed air, whereby moisture from the product being processed is removed by absorption with expansion and continuous air movement, permits full control to any degree of moisture content of the product being processed. These lower temperatures in combination with the continued air movement around all particles of the material being processed, produces a finished product not discolored from burning.

The unit is compact with accessibility to all vital parts. Heating may be effected by electric calrods, oil or gas burning equipment. When electrically heated, the Goodyer Aridizer can be constructed as an integral part of compressed air, gas or steam systems. If the element being heated is contaminated by suspended foreign particles, Turbo-Rotor Pur-O-fiers are assembled as an integral part of the unit to purify the processing element before entering the Aridizer.

The Goodyer Aridizer, states the manufacturer, can be adapted to any existing drying or dehydrating system or, complete dehydrating or drying systems, utilizing the Aridizer, can be engineered to meet any requirements. Complete information may be obtained from the manufacturer, Goodyer Industries, Inc., or *Printing Equipment Engineer* will pass along your request. A bulletin No. 14, will be sent on request.

18-Ft. Reach Fork Truck

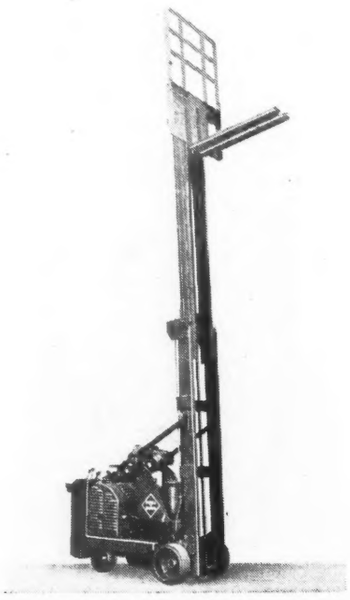
A FORK-TYPE power industrial truck with an elevating reach of 18 ft. above floor level is announced by Elwell-Parker Electric Co.

Standard models heretofore have had a lifting range up to 10 or 12 ft. a few special models going as high as 16 ft.

Features of design and construction make the truck useful for high-tiering materials and merchandise. Manufacturer claims it is compact, with increased speed and flexibility for maneuvering, and lifting and lowering loads.

It was developed to utilize more of the overhead space available in warehouses and shipping rooms.

The new truck picks up loads on its bare fork or on pallets in the same manner as with standard models. Its capacity



View of Elwell-Parker 18 ft. reach fork truck in extended position.

is rated at 4000 lbs. for lifting to a height of 11 ft. and 3000 lbs. to 18 ft. It is electrically driven, with three separate motors; one for traveling, one for operating the elevating mechanism, and the third for tilting the upright columns. Tilting limit is 15 deg. backward and 5 deg. forward from vertical.

Lifting speed with capacity load is 13 ft. per min., lowering speed 20 ft. per min.; truck's traveling speed 5 miles an hour.

Body of the truck independent of the uprights and fork, is 7 ft. 8 in. long. Overall width is 3 ft. 2 in. enabling it to maneuver in narrow aisles.

It is end-controlled, and the top of the body at the control panel is 4 ft. 2 in. above the floor level. Operator stands on a small platform 1 ft. above the floor. The low, short truck body permits him to see, pick up and manipulate the load.

Controls are arranged on the panel at a height convenient to the average-size operator. Power switch is actuated by foot pedal. End-control affords the operator safety, the moment he steps from the platform all power is shut off.

Truck is mounted on four wheels and is driven by means of the forward pair, size 7 x 20 in. Rear wheels through which steering is accomplished are 5 x 15 in. Wheels have solid rubber tires.

Identified as Model F 24 T, further information can be obtained from the Elwell-Parker Co. or *Printing Equipment Engineer* will be glad to forward your request for you.

Roller Folders

THE Ideal Roller & Mfg. Co. has issued two folders on rollers. *Synthetic Newspaper Rollers* give instructions for care and cleaning of rollers and suggestions for ordering. In the folder *Synthetic Rollers* is listed and described nine different rollers and the application of each. Some of these applications are aniline printing, lithography, rotogravure and coating and varnishing. Copies of these folders will be sent upon request to the Ideal Roller & Mfg. Co. or *Printing Equipment Engineer* will be glad to forward it for you.

Press Delivered

ELLIS W. RAMSEY, of the Ramsey Printing Co. at Searcy, Ark., is to have delivery on the first post-war American Type Founders Little Giant press, ATF has announced.

In the printing business 17 years, including two years while he was in the Army overseas, Mr. Ramsey has a small but well-equipped shop.

Air Conditioning Filter Solution

ANTICIPATING the installation of many new heating and air conditioning systems, a number of inquiries have reached the Glycerine Producers' Association about a glycerine filter treating solution. Because of this growing interest, a description of the method for making this fluid appears timely.

An efficient moistening fluid for filter bases to be used in heating and air conditioning systems is comprised of a 50 per cent solution of glycerine and water to which 0.2 per cent of glue is added. The procedure in making up the solution is to soak the glue overnight in a small amount of the glycerine solution and dissolve the swollen glue in the remainder of the glycerine solution. The fluid is then ready for use and may be applied to the filters by spraying or dipping.

After a period of service the treated filters can be cleaned by immersion in or spraying with either warm or cold water. Recoating the filter base with the glue-glycerine solution renews the filter's efficiency.

CERTIFICATE OF MEMBERSHIP

1947 PIA FOUNDED 1886

PRINTING INDUSTRY OF AMERICA

[INCORPORATED]

THE ASSOCIATION OF
PRINTERS AND ALLIED TRADES
TO INCREASE AND SUSTAIN
PROGRESS
IN THE GRAPHIC ARTS
THROUGH UNITY

Shown here in miniatures is the membership certificate distributed by Printing Industry of America, Inc. The certificate was designed by R. N. McArthur, master printer and president of Higgins-McArthur Co., Atlanta, Ga.

The certificate was delivered with a colophon which reads as follows:

Printer- Higgins-McArthur Company, Atlanta, Ga., by letterpress on Parsons Diploma Parchment with gold-leaf monogram hot stamped and embossed.

The writer-designer is pleased to make acknowledgement to:

Frederic W. Goudy for approving the use of the Goudy Kennerley type;

Bruce Rogers who gave favorable opinion of the monogram and its colors;

Public Printer Giegengack for his contribution of valuable suggestions;

David Silve, who commended the brevity of words, each line a phrase or thought, clearly expressed by the typography. Writer-Designer: Richard N. McArthur.

Survey Outlook for 1947

THE new year offers continued growth and expansion to the Graphic Arts in particular and the nation's industry as a whole, according to officials of the Harris-Seybold Co.

The executives expressing views were R. V. Mitchell, chairman of the board; H. A. Porter, vice president in charge of sales; and G. S. Dively, vice president and general manager.

Mr. Mitchell pointed out that the chief difficulties being experienced by Harris-Seybold, which are common to most capital goods manufacturers, are: (1) basic shortages in raw materials; (2) shortages in finished components; and (3) shortage of skilled workers. With reference to price increases, Mr. Mitchell said, "Equipment manufacturers realize their obligation to supply better machinery which will help printers produce more economically, sell their products at lower prices, and still realize adequate profits. However, this equipment will have to command a materially increased price over pre-war—due to tremendously higher costs of manufacture and engineering developments. This new equipment is capable of producing a better quality product, in greater quantities, at reduced cost."

According to Mr. Porter, the Graphic Arts will realize considerable progress in photography, in methods of composition, in the engineering of press and cutter design, in the production of ink, and in the manufacture of paper. The growth of the Graphic Arts can be further enhanced he said, by closer coordination on the part of all elements of the industry in improving the processes and production methods used for the spreading of words and ideas. This Harris-Seybold sales executive believes the Graphic Arts in general and the lithographic industry in particular are more alert, more aggressive than in the past. New Harris presses, scheduled to reach the industry in 1947, are the 17 x 22 single color; the 22 x 34 single color model; and the 42 x 58 in single, two, and four color models, he reported. Substantial shipment volume is now being attained on Seybold paper cutters.

New camera and platemaking equipment for exclusive distribution by Harris-Seybold has been designed and is being produced by R. R. Robertson Co., Mr. Porter reported. "Prime objective of the new agreement", according to Mr. Porter "is to enable Harris-Seybold to offer the Graphic Arts industry high quality photo-litho equipment and to round out our product line so that lithographers and prospective lithographers may obtain complete equipment from one source."

Vice president and general manager, Mr. Dively, stated that the production of Harris presses and Seybold cutters is scheduled to more than double pre-war volume by midyear 1947. He pointed out that production is exceeding pre-war volume at the present time, however, considerable time will be required to overcome the effects of unsettled economic and political conditions that have prevailed since the war's end. To supplement the manufacturing facilities of the company approximately $1,000,000 were spent on plant additions and facilities since V-J Day, Mr. Dively reported. The employment of the firm is greater than it has ever been in the past and further increases are planned.

Aluminum Casting Booklet

FEDERATED Metals has announced the release of a reference book on *Aluminum Casting Alloys*. A forty-four page manuscript, this booklet contains data about specifications, mechanical properties and foundry characteristics. Chapters are devoted to fundamental information about the effect of copper, silicon, magnesium, zinc, etc. There are also chapters on heat treatment, aging treatment, laws of gas absorption, gas removal, shrinkage, cracks, dross, etc. Readers desiring a copy should address a communication either to Federated Metals or *Printing Equipment Engineer* will forward it for you.

Midwestern manager of Matrix Contrast Corp., Willis Hunter, is shown seated at his desk in the outer office of the Chicago Service Branch. A section of the processing room and the recently installed stainless steel sinks and exhausts can be seen in the background. Space for the midwestern branch has been doubled to handle expansion of business.

JUST LIKE TYPE—Printers can read it but can the general public read it? The Western Typesetting Company's truck with its upside down and backwards sign has caused a lot of comment in Kansas City. Apparently, the layman can make it out because Sanford W. Stuck, Secretary-Treasurer of this composition house has been besieged with questions like "What's the idea of the screwy sign on your truck?" There is no doubt it has attention value. The Western plans to make its bowling shirts that way too, provided the team will agree not to wear their shirts wrong side out just to make the sign read right. This composition house puts originality into lots of its work but seems to lack courage of its convictions for its letterhead is conventional. At least it reads right although it is adorned with a cowboy riding a piece of type. In this picture Mr. Stuck is laughing at an onlooker who is turning his head down to read the sign.

Magnetic Steel Rule Puller Will Support 3 lb. Weight

ROBERT E. WEST, plant electrician of the Columbus (O.) *Dispatch*, has come up with a new one for the composing room. This is a tool for extracting the 1 pt. steel rules which are used to divide the classified advertisements in the *Dispatch*. Before dumping the dead classified advertisements into the hell box, the slugs are loosened slightly, and the magnetized rule puller is passed over them.

"Out come the rules like printers quitting work at the call of time," states Carleton C. Berry, foreman of the *Dispatch* composing room. Mr. Berry also observed that the magnetic rule puller saves several hours time each week, and it also overcomes any objection to magnetized steel rules since this tool does not magnetize the rules.

The magnetic rule puller he designed and made for Mr. Berry, Mr. West explained, can be used anywhere a light socket or wall plug of 110 v., a.c., is available.

Other details with respect to design and construction of the tool will be found in the captions for the accompanying illustrations.

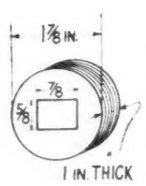
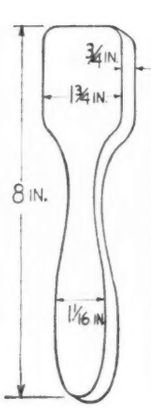


Diagram (not to scale) of West Classified Steel Rule Puller. Shown are length, width and thickness of the wooden support, which is 8 in. long, by 1¾ in. wide at the magnet section, and 1 1/16 in. wide at the belly section of the handle, by ¾ in. thick. The support is made from redwood.

Weight of the entire puller assembly is 1¼ lbs.



Construction of the magnet is as follows: The coil is 1 in. thick by about 1⅞ in. o.d. coil core opening, ⅞ in. by ⅝ in., wound from No. 29 plain enamel wire; turns per coil, 1856; coil resistance, 60 ohms. The iron coil core or pole measures 11/16 in. by ½ in. and is supplied with a shading coil. (The shading coil surrounds part of the pole and short circuits the magnet to reduce the magnet flux in the pole which is caused by currents induced in the coil itself.)

PNPA's Conference Program

The mechanical committee of the Pennsylvania Newspaper Publishers' Assoc. held a meeting in Harrisburg, Pa. recently, under the chairmanship of Nicholas M. Fellman, Chester (Pa.) *Times*. Plans were outlined for the 1947 conference at the Penn Harris Hotel, Harrisburg on Friday and Saturday, April 11 and 12.

One session of the conference will be devoted to the production problems of newspapers with less than 10,000 circulation, with Paul V. Driscoll, Connellsville *Courier*, as chairman.

Stanley Myers, Philadelphia *Evening Bulletin*, will direct a meeting to be given over to photography, photo-engraving, offset printing and other reproduction problems.

A composing room session will be in charge of Alan G. Kistler, Wilkes-Barre Newspapers. The pressroom session will be directed by Herbert Taylor, Bethlehem *Globe-Times*. Ralph E. Leuchtner, Pottsville *Evening Republican*, will be chairman of the stereotype discussion. Panels will be provided for all sessions.

Supply house representatives will sponsor entertainment at a Friday night dinner and at a party scheduled for Saturday evening.

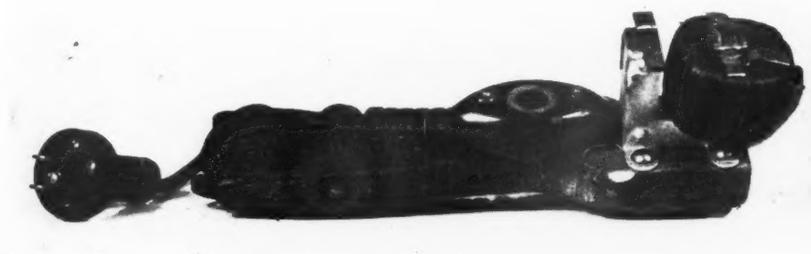
Auer's Year End Statement

JOSEPH L. AUER, president of R. Hoe & Co., reviewed the business outlook for the printing industry recently. Mr. Auer said: "The present economic situation is so fluid that any prediction can only be stated in general terms, but the longer-term outlook for the graphic arts industry is definitely favorable. Considerable growth is indicated for the next several years.

"At the present time, R. Hoe & Co., Inc., has an unprecedented volume of orders on its books, involving large and small rotary presses, as well as auxiliary equipment for letterpress, rotogravure and offset printers.

"As to deliveries, we, in the printing industry, are confronted with the same problems facing industry in general. Barring unforeseen work stoppages, capacity output in the present fiscal year is anticipated and we estimate that it will be more than double the 1946 rate.

"All of our large pre-war rotary printing presses have been redesigned with a view toward more efficient operation, easier maintenance and high sustained quality reproduction.



Here is shown a view of the West Classified Steel Rule Puller used in the classified department of the Columbus (O.) *Dispatch* composing room. The plug may be inserted in any a.c. light socket or outlet. The small snap switch is hooked into the cord for convenient use by the break-up man. The magnet will support 3 lbs. weight.

Maple Press's annual keepsake book this year is a contrast between subdued paper, type and illustration and the brilliantiy colored floret ornamentation on each page. Designed and produced under supervision of Howard N. King.

Books

Maple Press's Fifth Annual Keepsake

THE Maple Press Co. of York, Pa. has sent its friends the fifth annual keepsake. This beautifully printed and illustrated book is entitled *The History and Customs of The Amish People.*

The book was designed and produced under the supervision of Howard N. King, vice president. The edition consists of 990 copies which were sent to friends, no copies are sold.

Howard Imhoff of York, Pa. was the artist. Many of his lovely drawings were made on Amish farms.

The book is printed in four flat colors with decorative spots on every page. Printed by the letterpress method the type is 14 pt. Bell and was set entirely by hand. The binding is natural finish buckram cloth and a four color label is pasted on the front. End sheets and slip case are reddish brown with an overall design. The trim size is 7½ in. by 11 in. with stained tops.

The typography, illustrations and decorative spots are well suited to the rough finish antique paper.

The fortunate few to receive this book have an interesting and beautiful book to add to their library.

Manual of Industrial Relations

MANY a foreman will find soul-satisfying reading in the volume *Manual of Industrial Relations* published by National Foremen's Institute. Further, if his company relations are not satisfactory and he hasn't been granted all of the prerogatives to which he is entitled, he can find some way of bringing this book to the attention of his management. There is also contained within this volume a great deal of information regarding management-supervisory executive treatment of employees.

It is pointed out in the text that management cannot live unto itself. If it is to survive, executive management must have the intelligent cooperation of secondary management—the foremen. The reasons for this statement will be obvious to every foreman. In this book are pointed out to management just what it should do to maintain the connecting link between management and the rank-and-file employees with the assistance of the foreman. On the other hand, rules of conduct for foremen are suggested. Among the latter are a discussion of the grouchy foreman, domineering supervisory tactics, impatience of the foreman, consistency, the breaking of promises, favoritism, breaches of confidence, uneven distribution of disagreeable tasks, excessive overtime, disregarding suggestions, withholding credit, procrastination, threats, and many other bad qualities which a foreman should avoid.

Among the chapter titles of particular importance are: Company Plans and Policies and the Foreman, Employee Morale, Grievances, Wages, Training, Collective Bargaining Agreements, Unions, Government Regulations of Labor Relations (included under this chapter heading are National Labor Relations Act, Fair Labor Standards Act, Social Security Act, etc.,) Foremen Unionization, Compulsory Arbitration, Foremen Relations including typical foremen gripes, Full list of Labor Unions by Industry, National Labor Relations Act.

An appraisal of the *Manual of Industrial Relations* compels *Printing Equipment Engineer* to state that this is one of the most valuable books on management-foremen, employee relations we have ever read. No foreman could ask for greater management recognition than is espoused in this book; many a management executive will profit from reading the book; and employees by and large certainly will recommend the policies discussed.

Manual of Industrial Relations—By Bruno R. Neumann and Arthur T. Jacobs. Published by National Foremen's Institute, Inc., Deep River, Conn. Price, $7.50 per copy. Size, 9⅝ in. by 11⅜ in.; 185 pages. Bound in loose leaf maroon imitation leather, gold stamped. Order direct from National Foremen's Institute at address given above.

Starting That Printing Plant

OPERATING a print shop is a tough, competitive business, filled with keen, aggressive, highly trained men and is no place for the inexperienced, according to a booklet—"Establishing and Operating a Small Print Shop"—just issued by the Department of Commerce. However, the owner of an efficiently run print shop will earn profits in money, in satisfaction and in security for the future, the booklet states.

In addition to surveying his background of experience, intelligence and education, the prospective print shop owner is urged to check his personality for certain character traits. These include: initiative, energy and industry, sincerity and honesty, tact and courtesy, enthusiasm, determination, managerial ability, self-confidence and realism.

The prospective owner must also consider the amount of capital required to set up a print shop. He is reminded that printing equipment is expensive and that certain pieces are essential in either a small or a large shop. Cheap second-hand machinery will almost certainly be a false economy. With about $12,000 a well-fitted small shop, employing one or two assistants, can probably be set up and started.

Chapters dealing with all major phases of the business include the selection of a proper location, financing, equipping the shop, responsibility of the proprietor; price policy and estimating, selling and buying, and production management and operations.

The final chapter—"Staying In Business"—summarizes the more important points that make for success or failure. For example, more printers go broke because they charge too little for their work

than for all other reasons combined. Hence the need for keeping adequate records in order to determine whether too little or too much is being charged for work done.

The new print shop owner also is advised to watch his credit, to keep up with the times and to join his local printers' trade association.

"Establishing and Operating a Small Print Shop" as written under the supervision of the General Products Section, Industry Division, Office of Domestic Commerce, in consultation with the industry. Copies can be purchased from the field offices of the Department of Commerce or from the Superintendent of Documents, Washington 25, D. C., at 15 cents each.

Trade Mark Act Book

W. H. ANDERSON CO. announces the publication of a book on the *Trade Mark Act of 1946*, by H. A. Toulmin, jr. This act, known as the Lanham Act, is the first comprehensive law enacted for the protection of trade marks in the United States.

Under the new law many types of trade marks which could not be successfully protected are now susceptible of protection, such as secondary meaning marks, service marks, certification marks and distinctive package designs.

Another feature of the trade mark law is the provision for separate registers. In addition to the principal and supplemental registers, the Commissioner of Patents may establish separate registers for foreign marks, service marks and collective and certification marks.

One of the vital features of the new trade mark law is that after a period of years a mark becomes incontestable and is the property without question of the owner. Heretofore, the registration of a trade mark was only evidence of a claim to the mark. Other important features are used by related companies and the provision for assignment of a mark without sale of an entire business.

New grounds for cancellation are if the mark becomes the common descriptive name of a product or if the mark is being used to violate the anti-trust laws.

The book may be ordered direct from W. H. Anderson Co., law book publishers, Cincinnati, O. Price delivered $5 single copy; 10 or more copies, $4 each.

Conference Dates

ANPA Mechanical Conference—Palmer House, Chicago, Ill., June 9, 10, 11, 1947. Worth Coutney, Chairman; Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Newspaper Mechanical Conference—Pantlind Hotel, Grand Rapids, Mich. October 26, 27 and 28. President Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer;* Secretary Al. P. Oberg, Composing Room Supt., Flint (Mich.) *Journal.*

International Association of Printing House Craftsmen — 1947 convention city to be announced later. Wm. H. Griffin, President, Griffin Bros., 447 Sansome St., San Francisco, Calif.; Secretary, Pearl E. Oldt, 702 Griswold St., S. E., Grand Rapids 2, Mich.

International Trade Composition Association—Frank M. Sherman, Executive Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

National Association of Photo Lithographers — Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

New England Mechanical Conference—Hotel Statler, Boston, Mass., Nov. 8 and 9, 1947. President, Wm. F. Madden, Composing Room Supt., Worcester, (Mass.) *Telegram-Gazette.* George L. Green, President, Providence (R.I.) *Journal;* Walter C. Crighton, Secretary-Treasurer, New London (Conn.) *Day.*

Northwest Mechanical Conference — President, Wm. C. Brown, Mechanical Supt., Minneapolis (Minn.) *Star-Journal;* Vernon Eck, Secretary, 3725 48th Ave. S., Minneapolis 6, Minn.

Pacific Newspaper Mechanical Conference—1947 meeting at Hotel Biltmore, Los Angeles, Calif. May 10 and 11, 1947. President Edw. Sparks, Pressroom Supt., Los Angeles *Examiner;* Secretary, Fred J. Moyer, *Daily News*, Los Angeles, Calif.

PNPA 1947 Mechanical Conference—Penn-Harris Hotel, Harrisburg, April 11-12. William N. Hardy, Manager, PNPA., 209-213 Telegraph Bldg., Harrisburg, Penna., Nicholas M. Fellman, Chester, (Pa.) *Times*, chairman, PNPA Mechanical Committee.

Printing Industry of America — French Lick Springs Hotel, French Lick, Ind. Sept. 22, 23, 24 and 25. James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

SNPA (Eastern Div.) Mechanical Conference—Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times.*

SNPA (Western Division) Mechanical Conference — Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex.

Christmas Card with Old Time Atmosphere

The Ideal Roller & Mfg. Co. mailed a clever Christmas card to its friends in the Graphic Arts this year. Printed in red and green it shows the interior of an old-time print shop with a Christmas party in session. Shown is the printer's devil getting his first look at type lice, the surprises in the Christmas packages and a glimpse of the boys in the back room.

Trotter Elected Director

At the annual meeting of Walden, Sons & Mott, Inc., the board of directors was expanded from three to seven members. The principal officers were re-elected and two of the new directors were named vice presidents. The two new vice presidents are Van Rensselaer Walden and Alfred S. Walden. Tom Walden, Jr. was named assistant secretary and Ernest F. Trotter, Editor of *Printing*, was the fourth new director elected.

Litho Clubs

The National Association of Litho Clubs through the offices of the secretary, K. O. Bitter, announced that two additional clubs have been admitted to membership. These local clubs are Detroit and Chicago. A total of 11 local Litho Clubs now hold membership in the national body with approximately 100 craftsmen and executives enrolled.

Changes Firm Name

The firm name of Payne & Walsh Corp., dealers in printing machinery and bookbinding equipment, has been changed upon the resignation of William C. Walsh to Payne & Craig Corp'n. The office is located at 82 Beekman St., New York, N. Y. Ernest Payne is president and treasurer and John Craig is vice president and secretary.

Standardize Type Faces

FRANK POWERS, president of the Type Directors Club of New York, announced recently the appointment of a continuing committee to carry out the project for a Standardized Book of Type Faces which the Type Directors Club is sponsoring. Members of the committee are: Milton Zudeck of McCann Erickson, Inc., Robert Stumpf of Standard Oil Co. (N. J.), Joseph Weiler of American Book Co., Eugene Ettenberg of The Gallery Press, and Mr. Powers.

A Good Story Bears Repeating

Bad for the Cow.

When George Stephenson applied to Parliament for the right to build the first railway in the United Kingdom, a question was propounded to him which many persons thought would give the death blow to his great plans.

"What would happen if a cow got in the way of your engine?"

The people looked grave. There could be only one result—inevitable overthrow and destruction of the engine, with great loss of property and injury to life.

But Stephenson answered the question very confidently in seven words:

"It would be bad for the cow."

Now, how does this apply to the printing business? Where does it touch you, my doubting friend?

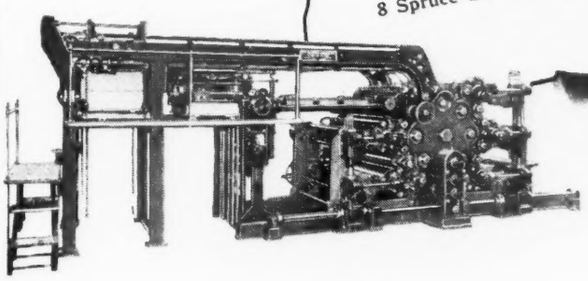
Right here. By clinging to your old machinery, you are planting yourself directly in the pathway of Progress.

It isn't going to stop Progress; she's going right ahead. It isn't likely to hurt her—but it will be bad for you.

Don't do it. Just let us talk this matter over together. We'll put down a few figures on paper and you will see matters in a different light.

C. B. Cottrell & Sons,

8 Spruce St., New York. · 319 Dearborn St., Chicago · 174 Forthill Square, Boston.



This bit of wisdom appeared in the advertising pages of the American Pressman in November 1891. Its words and advice are just as sound today as they were 56 years ago.

This is the Cottrell Five-Color Rotary Press. It prints at a speed of 5500 sheets per hour up to 5 colors.

C. B. COTTRELL & SONS CO.

Westerly, Rhode Island

New York: 25 E. 26th St. • Chicago: Daily News Bldg., 400 W. Madison St. • Claybourn Division: 3713 N. Humboldt Ave., Milwaukee, Wis. • Smyth-Horne, Ltd., 13 Bedford Row, London W.C. 1, England

Cottrell

VER 92 YEARS OF GROWING WITH THE PRINTING INDUSTRY

EXECUTIVE ¶s

Walter A. Lippincott, president of the Ideal Roller & Mfg. Co., retired recently. He is succeeded by H. N. Love, former

H. N. Love, president of Ideal Roller & Mfg. Co.

vice president and general production manager. Mr. Love has been associated with the company for 14 years. Norman L. Rowe was elected vice president. Mr. Rowe will continue in his present capacity as general manager of the Eastern Division in Long Island City, N. Y.

Jerry Cresswell, stereotype superintendent of the Detroit (Mich.) *Free Press*, retired in December after 43 years of service with that paper. Mr. Cresswell has been superintendent of his department for 16 years. He plans to take things easy at his home in Detroit. His foster son Ferd A. Miers succeeds him as stereotype superintendent on the *Free Press*.

Wilbur A. Thompson, Stereotype Superintendent of the New York *Herald Tribune*, died of a heart attack on Saturday, January 4, in his office.

John H. Raven was honored recently at a dinner given to commemorate his 25th anniversary with the Fuchs & Lang Div. of Sun Chemical Corp. Mr. Raven was twelve years old when he started to learn the lithographic trade at Orcut Lithography Co. in Chicago. When the Amalgamated Lithographers of America was formed, Mr. Raven assisted in its organization and today holds an honorable membership in this union. At the first of this year Mr. Raven retired from Fuchs & Lang after representing it in Indiana and Illinois for a quarter of a century.

Earle B. Winchester, production manager of the Williams Press, Albany, N. Y., resigned from that company in December. Mr. Winchester plans to take a sabbatical year and travel in the United States and Canada. He became associated with the company in 1914 when it was the J. B. Lyon Company. In 1927 he was elected secretary of the company and held this position until 1936 when he became vice president.

Charles H. Goddard, assistant general sales manager of the Lighting Division, Sylvania Electric Products Inc. has been appointed general manager of the fluorescent fixture division, according to an announcement by Don G. Mitchell, President of Sylvania. Mr. Goddard's headquarters will be at the Ipswich, Mass. plant.

Hans W. Huber announced the amalgamation of all the Huber companies into one principal company to be known as the J. M. Huber Corp. Those affected are the Huber Co., Inc., J. M.

Hans W. Huber announces merger of Huber companies.

Huber Corp., and J. M. Huber, Inc. J. M. Huber Corp. in continuing the operations of the three merged companies will be engaged in the production of crude oil and natural gas and the manufacture of carbon black and natural gasoline; in the mining and refining of kaolin clay; in the production of rubber chemicals; in the operation of timberlands in Maine and in the production of printing inks.

Fred Danner, president of Danner Press, Inc., Akron, O., was host recently to 300 employes and guests at a banquet and party at which awards were made to veteran employes. F. N. Raffath, vice president and plant superintendent, and Mrs. Marie Bell, secretary, received $500 each and jewelry gifts in recognition of 20 years' service. Nine other employes with 10 years' service received wrist watches.

Joseph O. May, head of the printing department of Sun Chemical Corp. passed away in December. In 1918 he installed the printing department for Eagle Printing Ink Co. When that company became part of General Printing Ink Corp. in 1929, Mr. May organized the corporation's printing department, and had been in charge of it until his death.

At the January meeting of the Virginia Press Association held in Richmond, C. C. Rhame, manager of the New York sales agency of the Linotype Co., was

C. C. Rhame of Linotype Co. holds plaque awarded to him by Virginia Press Association.

presented with a copper and mahogany plaque. He was also made an honorary life member of the association. The inscription on the plaque runs, in part, as follows: "In recognition of faithful service, the Virginia Press Association honors Charles Coleman Rhame, who for each of the past thirty-two years has attended at least one meeting of the Virginia Press Association, and who has been a sincere personal friend of Virginia newspaper men, with whom he has kept in close contact for more than three decades." The plaque carries the signatures of Tom Hanes, V. P. A. president, and E. O. Meyer, secretary. It was presented for the association by J. Barrye Wall, publisher of the Farmville (Va.) *Herald*.

D. R. Goldthwaite, chairman of the board of Interchemical Corp., announced that Ernest W. Pittman had been elected to the office of chairman of the executive committee. Mr. Pittman has served as president of the corporation since 1937. At the same meeting Herbert B. Woodman was elected president. Mr. Woodman joined the Interchemical organization in 1936 and became vice president and secretary in 1937.

James A. Coleman, retired secretary and treasurer of American Type Founders, Inc., died at his home in Upper Montclair, N. J. recently. Mr. Coleman had been associated with the American Type Founders for 40 years prior to his retirement.

Andy H. Solberg has been appointed St. Louis District Manager of Geo. H. Morrill Div. of Sun Chemical Corp. it was announced recently by Ralph C. Persons, general manager. Mr. Solberg has been associated with the graphic arts for more than 20 years. His headquarters will be in St. Louis, Mo.

The Search for **TRUTH**

Linotype research men are no mere swivel-chair artists. Their headquarters may be at 29 Ryerson Street, Brooklyn, but the World is their laboratory.

They swap skills and experience with Linotype operators and machinists in printing plants, wherever they travel. They take their research abilities into the plants that furnish the materials which Linotype craftsmen fashion into machines, parts and supplies for the industry. With their technical skills are combined the best in science and practice.

That's why Linotype standards are high—and Blue Streak Linotypes continue to be better and better.

LINOTYPE · BROOKLYN 5, NEW YORK

Linotype Bodoni Family

Linotype
RESEARCH

Never a change for the sake of mere novelty. . . . Never a substitute of materials excepting for actual improvement. . . . Always an open mind for the consideration of better means and better results.

R.O.P. and Magazine Color Work Taken in Stride in Salt Lake City

FOR a number of years, Jack Kelt, well known photo-engraving technical enthusiast, has been urging newspaper organizations to get ready for newspaper color printing by setting up experimental laboratories in their plants. After these newspaper organizations have gone through the motions and have finally produced printable r.o.p. color plates, they can then start in a modest way to publish them in regular editions.

Many newspaper executives, including those in the medium and smaller circulation class, have been working with color for some time. The results are beginning to appear. It is understood, of course, that many of these papers anticipate putting in new equipment when available. This equipment will be supplied with modern color printing facilities.

One such newspaper organization is the Salt Lake City (Utah) *Tribune* and *Telegram*, of which Harry Eybers is production manager. In referring to the Salt Lake papers, we are reminded of the statement made recently by Louis D. Young, advertising director of the Indianapolis (Ind.) *Times*. The *Times* does outstanding r.o.p. color printing. One of his most important statements was to the effect that to do successful newspaper color printing those concerned with its production must work as a team. There is no room in the organization for the prima donna.

We have received a number of tear sheets containing samples of the color work done by Mr. Eybers' organization. In writing about the specimen sheets, he states: "The credit for our work goes to all departments. All of our men like to work with color. It is only through the fine co-operation and excellent personnel relationship existing in all our departments that we have been able to make progress.

"In doing newspaper color work," explains Mr. Eybers, "you must start with the photographer, then comes the artist, then the engraving department, and finally the composing room. If the engravings are suitable and if the necessary components are properly assembled in the form, the stereotyper will reproduce them in the plate. If the stereotyper can put them in the plates, the pressroom can print them.

"Our goal is daily color produced with speed. We want to run color the same day we receive it. But we are going to get quality first and then work on production speed. We have already cut in half the time required to do color work. I think too many newspaper executives are making the mistake of worrying about speed first. As a result, this speed concentration will only sour the public with respect to color and will hurt all newspapers that are ambitious to print r.o.p. color."

Continuing, Mr. Eybers writes: "We are still far from being satisfied and are continually trying out new methods to improve our work. We think color is definitely in the picture in the daily newspaper field. Like many papers, we are planning new press equipment with color printing facilities for the future. In the meantime we are doing all we can to improve our work with the equipment at hand. We have found there is a lot more than presswork involved in printing either color or straight black.

"A lot of publishers having new press equipment on order are going to be sick when they press the button for the first time after they get their presses. The reason is they have permitted their present engraving, composing and stereotype equipment to become obsolescent. The main cause for the apparent carelessness and lack of interest in many mechanical departments is that the men in these departments think they cannot produce a well printed newspaper because of the age of the press. They give up trying to produce excellent color work and look forward to the installation of the new press. Color work (or even black printing) just isn't done that way. When the new press has been installed they will find that it will be necessary to start all over again right from the top. The new presses will yield better printing at greater speeds. They will be equipped with new plate lockups, fine bearings and better inking systems. But the principle of printing newspapers will still be the same. We will still reproduce from type, photo-engravings and the stereotype plate."

The color printing produced in the *Tribune* and *Telegram* plant is executed entirely within the plant. Some of it is what is commonly known as "fake" color and the balance is four-color process. Color is used both editorially and for advertisements.

The photographers are using the new Ektachrome film for the four color process jobs. Mr. Eybers and his associates feel that the only future in newspaper color lies in four-color process work. He feels that the "fake" color process will not be used when his organization becomes proficient with the four color process.

No special color department is maintained. All work is done on the side along with the regular black work.

While some color work has been printed in the daily editions, most of it has been used in the Sunday Magazine and in the Society section. Both of these are printed on a color press using semi-hard packing with little makeready. Outside of the color press, no color equipment is in the plant. Regular newspaper mats and newsprint are used.

When r.o.p. color is to be printed in one of the dailies, a color unit designed for two colors and black is used. The third color is picked up with an auxiliary fountain on one of the units. This necessitates printing the black plate second.

Mr. Eybers states that when color is to be run on the daily, the editions are not started any earlier than the regularly scheduled time.

Printing Equipment Engineer's appraisal of the specimen tear sheets sent by Mr. Eybers is as follows: Taking into consideration the relative newness of the process for newspapers and the peculiar requirements, the entire collection of specimens varies in quality. On the whole, the appearance is pleasing. In a few of the specimens it is evident that familiarity with the rigid requirements of newspaper color platemaking is lacking. In other specimens, the work appears to have been done by a master team.

Particularly, we like the 4 col. 8 in. four color process editorial subject printed on page 1 of the *Telegram's* January 1 issue. This consists of a little shaver dressed in formal clothes. He is surrounded by gaily colored balloons four of which bear one figure each to represent the new year 1947. Some of the "fake" color work (in the full page size specimens) would do credit to the best efforts of some of the larger metropolitan dailies and Sunday papers. It is evident that the color-conscious executives of the *Tribune* and *Telegram* organization will produce consistently good results before long.

Announces New Department

Charles E. Wilson, President of General Electric Co. has announced the establishment of an affiliated manufacturing companies department. Vice President L. R. Boulware has been appointed general manager, E. J. Harrington, manufacturing manager and Roy W. Johnson, marketing manager.

Mr. Boulware had been vice president on the president's staff. He joined the General Electric Co. following his wartime service with the War Production Board. Previously he had been vice president and general manager of the Celotex Corporation.

Mr. Johnson was vice president in charge of sales for Telechron, Inc. During the war he was with the WPB, serving as director of the Facilities Bureau. Before the war he had marketing assignments with Schick, Inc., and General Electric.

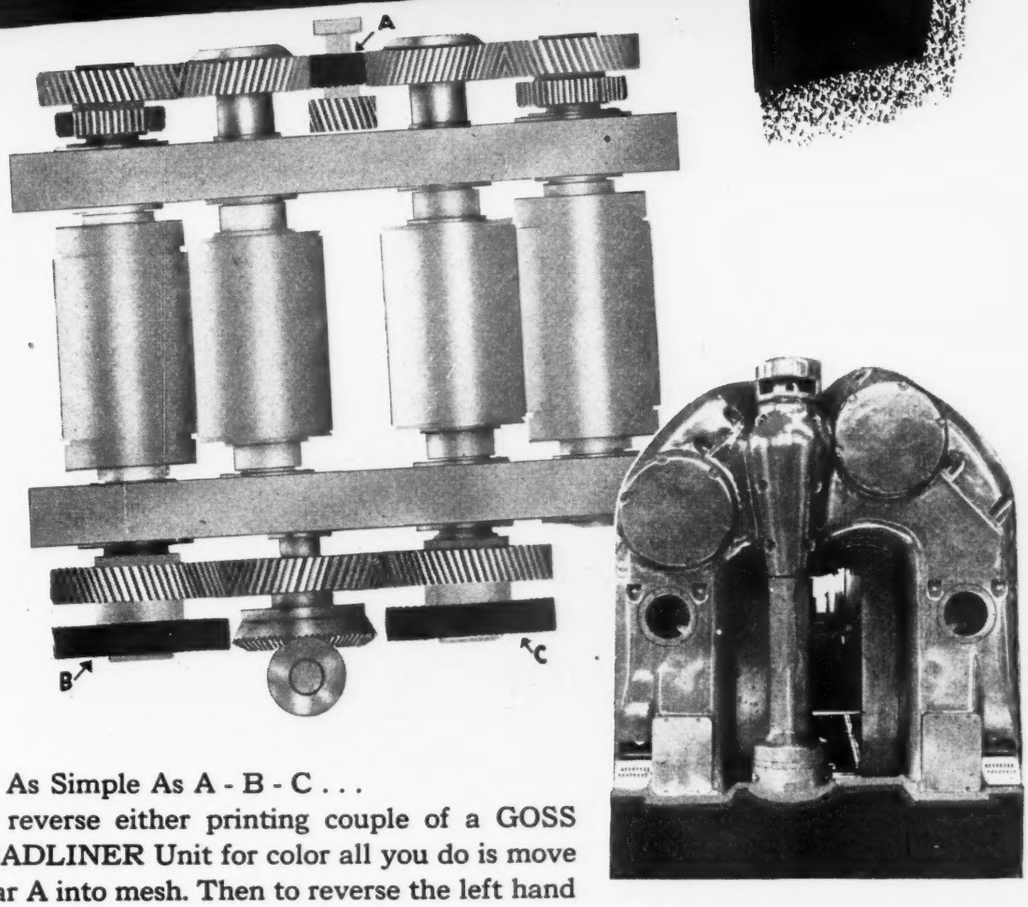
Mr. Harrington has been on Mr. Boulware's staff since October, 1945. During the war he was vice president of the Curtiss-Wright Corporation.

The manufacturing affiliates include Carboloy Co., Inc., General Electric X-Ray Corp., Hotpoint, Inc., Locke Insulator Corp., The Monowatt Electric Corp., Telechron Inc., and the Trumbull Electric Mfg. Co.

Export Distributor

The Printrade Machinery Corp. of New York, N. Y. has been appointed export distributor of the Willard offset press, it was announced recently by Stuart E. Arnett, sales manager of the Printing Machinery Division, Electric Boat Co. John Szel is president of the Printrade corporation.

SIMPLICITY of COLOR



It's As Simple As A - B - C . . .
To reverse either printing couple of a GOSS HEADLINER Unit for color all you do is move Gear A into mesh. Then to reverse the left hand couple move Gear B out of mesh, or to reverse the right hand couple move Gear C out of mesh. What could be simpler?

The design of the Headliner Press with maximum flexibility for color is an outgrowth of many years of experience of GOSS engineers in providing color on many GOSS Presses built for a wide variety of uses. Therefore you will find the HEADLINER more readily adaptable to color printing in all its phases without sacrifice of printing quality.

THE GOSS PRINTING PRESS COMPANY
1535 SOUTH PAULINA STREET • CHICAGO 8, ILLINOIS

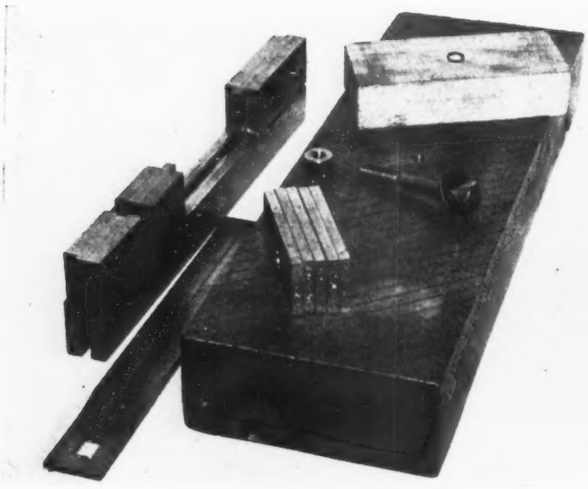


Fig. 1.—At left is a Monotype Material Maker mold which has been cleaned and assembled with the aid of the clamping device shown at left. This method was devised by Guy A. Righter, Technical Advisor of the Richmond (Ind.) *Palladium-Item*. The extra hexagon nut lying on the lapping block is to keep the strip material slugs, the wooden block and the screw together when the parts are stored.

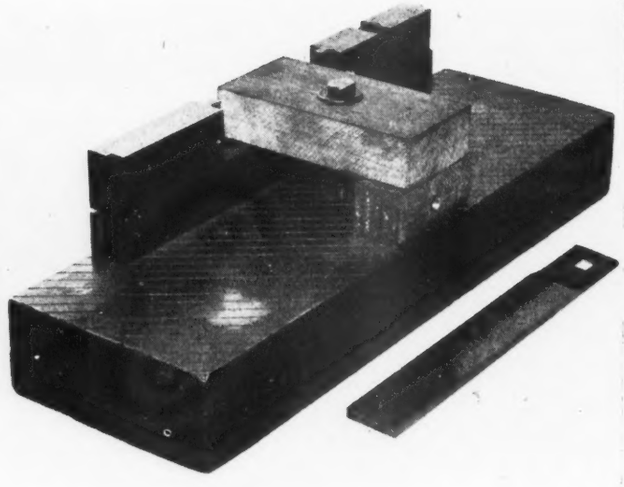


Fig. 2.—View of device developed by Guy A. Righter, Technical Advisor, of the Richmond (Ind.) *Palladium-Item*, for assembling Monotype Material Maker Molds in alignment after cleaning. The mold is placed at the left edge of the lapping block. Five 12 pica lengths of 12 pt. strip material are placed under the right end of the hard wood cut mounting base. The ¼x24 hex. hd. steel screw clamps the molds parts in place while the mold screws are being tightened.

Monotype Material Maker Mold Assembling Block

By GUY A. RIGHTER*

**Technical Adviser, Richmond (Ind.)* Palladium-Item.

SHOWN in the accompanying illustrations is a device which facilitates the reassembling and adjustment of a Monotype Material Mold after the mold has been cleaned. I have found it to be a difficult and time-consuming job to adjust these molds after cleaning so the two halves will be parallel. The usual method is to reassemble the mold after cleaning. The mold blade is used as a straight edge. The halves are tapped with a piece of soft metal until the straight edge shows the sides are parallel. The screws are then tightened. With this method, the side plates may have shifted when the screws have been finally tightened.

I have devised a simple means for assisting in the assembling of the mold parts. It consists of a Linotype lapping block through the exact center of which is drilled and tapped a hole for ¼x24 machine screw. If a lapping block, like the one shown in the illustration is not available, the top of a metal imposing table may be used, or procure a new piece of hardwood cut-mounting base. The other parts consist of a piece of hard wood 0.853 in. thick cut mounting base, a ¼x24 by length hex. hd. steel machine screw and a few pieces of mold-high material cast in the mold which is being cleaned and adjusted. The sizes of the wood block and the strip material will suggest themselves to the machinist.

After the mold has been cleaned, assemble it loosely with the "liners" projecting a short distance above the upper surfaces of the mold plates. Place the mold on the lapping block as shown in the illustration (Fig. 2.). Place the section of wooden base at right angles on the mold with the several lengths of strip material under the free end of the wood block. Apply the ¼x24 screw with washer under the head and bring it to a bearing. Tap the liners down even with the top of the mold, using a strip of material between the mold and hammer, or a fairly good size piece of stereo metal base may be used for this purpose. Tighten the mold screws a little more. Then tighten the ¼x24 screw firmly to clamp the wood block down on the mold. Tap each end and side of the mold with soft metal block to insure its being firmly bottomed on the lapping block. Now, finally tighten the ¼x24 screw real tight. Then tighten the mold screws. The mold parts will now be found to be parallel upon testing with the straight edge.

Vacation Study

A study and analysis of the vacation plans of 224 firms in the United States and Canada has revealed that since the war the trend has been steadily toward liberalized vacation privileges for office and industrial workers. The study was made by the Policyholders Service Bureau, Metropolitan Life Insurance Co. The results have been published in two reports entitled *Vacations for Industrial Workers* and *Vacations for Office Workers*.

The report is designed to assist executives of the Metropolitan's Group policyholder companies who are setting up new vacation plans or revising old plans. Covered by the reports are such points as: company policies; types of plans; provisions of plans, such as length of vacation, service requirements, and methods of calculating both the vacation pay and the minimum work requirements during the preceding year; assignment of vacations to individuals, and methods of announcing vacation plans to employees. Copies of these reports are available to executives who request them on their business stationery. Address: Policyholders Service Bureau, Metropolitan Life Insurance Co., 1 Madison Ave., New York 10, N. Y.

Miehle Elects Officers

The Miehle Printing Press & Mfg. Co. elected officers recently at the company's annual meeting. Re-elected to offices previously held were J. E. Eddy, President; Phelps Kelley, Executive Vice President; J. W. Coultrap, Secretary; George Schultz, Treasurer; and C. P. Titsworth, Vice President. Four department heads of the Miehle organization were elected vice presidents. They are: Carlton Mellick, Vice President in Charge of Sales; F. M. Bender, Vice President in Charge of Manufacturing; H. E. Peyrebrune, Vice President in Charge of Engineering; and F. P. Garbark, Vice President and Comptroller.

Patents

For The Graphic Arts Field

Covering patents issued December 17, December 24, December 31, January 7.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating

During the four weeks covered by this report, no patents have been issued for this heading.

Composing Room Equipment

2,413,780. SPACEBAND DELIVERY MECHANSM of a Linotype machine in which the spacebands are guided by their upper projecting ears through a channeled storage magazine into a delivery chute. An escapement mechanism is featured. This cooperates with the lower ends of the spacebands and controls their passage one at a time into the chute. The escapement includes two fixed stops and two reciprocable pawls. The foremost spaceband normally rests against the first stop and is displaced by the first pawl in one direction to disengage it from the stop and allow it to swing sidewise in the direction of the chute. The second stop intercepts this swinging movement and the second pawl displaces the spaceband edgewise in the opposite direction. This disengages the spaceband from the second stop and allows it to complete its sidewise movement in the direction of the release chute. Invented by James C. Plastaras, Laurelton, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application April 6, 1944. 16 claims.

Feeding, Folding and Delivery

2,413,581. ROLL-REPLACING APPARATUS for printing presses which starts a new web without interrupting or retarding the speed of the web travel and without variation of the tension of the web. The old web is severed immediately after the splice is made and, after severing of the old web, the new web roll is moved to a running position in which adequate tension is applied to its surface and consequently to the web running from the roll. Application of tension through the new roll, when the splice is made, is governed by movement of the spliced end of the new web with the running web away from the roll surface. A control actuator on the web of the new roll adjacent its leading end, together with means responsive to the movement of this actuator away from the new roll surface along the running web, severs the web from the old roll and moves the new roll relative to the tension supplying new members. The invention is applicable to web replacement operations in which ordinary tacky adhesive is used to make the splice, and also to operations claimed in patent 2,320,656, reported in the July 1943 *Printing Equipment Engineer*, in which self-sticking adhesive is used. Invented by Oscar C. Roesen, Scarsdale, N. Y. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application June 14, 1944. 16 claims.

Miscellaneous

2,413,771. ADSORPTION APPARATUS FOR TREATING LARGE VOLUMES OF AIR to remove vapor and fumes therefrom, as, for example, the volatile solvents employed in connection with gravure printing inks so as to maintain the solvent vapor concentration within healthful and safe limits. Adsorber comprises a vertical shell in which are disposed three transverse beds of adsorbent material. A cylindrical sleeve is centrally located along the longitudinal axis of the shell communicating with the space above the top and bottom beds of material. A header, external of the shell, connects a system of conduits and valves in such a manner as to insure intermingling of

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steam and air which are preferably owing countercurrent to each other. The purified air is exhausted through a conduit and valve, and condensate is drained by gravity and collected in a condensate chamber below the adsorber. Invented by Enrique L. Luaces, Dayton, O. Assigned to Chemical Developments Corp., Dayton, O. Original application June 25, 1943, divided and this application November 1, 1943. 4 claims.

Plate Making

2,412,889. PAPER PRINTING PLATE, for use in ferro-gelatin printing processes, which consist of Kraft, vegetable parchment, or like paper coated on its upper surface with untanned gelatin. The usual plasticizers, fillers, etc., are incorporated within the coating and the paper may be sold dry, in cut sheets or rolls, being perfectly stable under ordinary storing and handling conditions. To maintain the water balance for printing a porous stone block is used. Moisture is applied to the back of the paper and use of the stone block tends to cool the paper, thus enabling papers having untanned gelatin coatings to be used at ordinary room temperatures. The coated papers may be stored and kept indefinitely. Invented by Edward Jahoda, Detroit, Mich. Assigned to Walter M. Fuchs, Detroit, Mich. Application February 16, 1945. 1 claim.

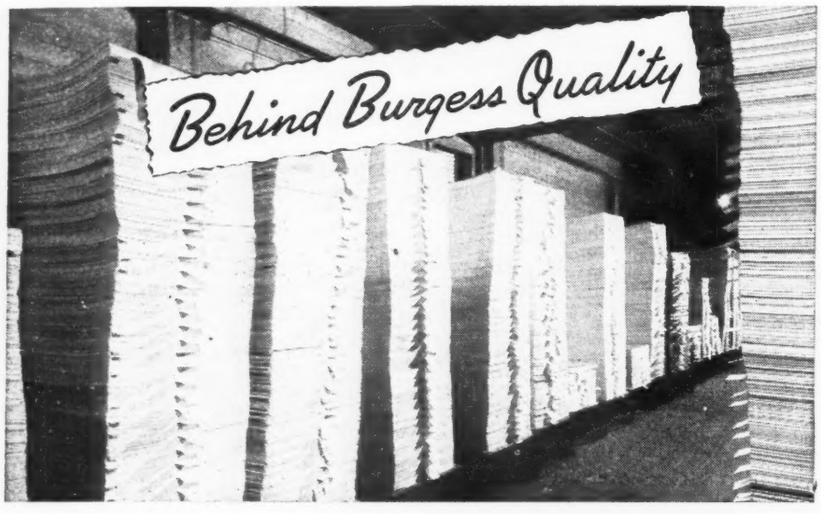
2,413,664. COMBINATION SPECIAL SUPPORT AND PAPER PLANOGRAPHIC PRINTING PLATE furnishes a non-stretch, flexible printing surface which is durable to withstand clamping on a lithographic press. A thin, flexible, sheet-metal support, having marginal grained surface portions which act as non-printing surfaces, is formed with a recess in it for holding a paper or plastic printing plate. Adhesive strips are provided in the recess for holding the plate in its correct position. This arrangement provides a printing surface in which the grained metal surface of the support cooperates with non-printing parts of the paper or plastic plate to maintain the water-receptive, ink-repelling, character at all points except where printing portions of the plate occur inside its marginal edges. Invented by William Craig Toland, Brooklin, Mass. Assigned to William Craig Toland, trustee. Application July 22, 1942. 3 claims.

2,413,747. METHOD OF PHOTOETCHING AN ELASTIC PRINTING PLATE, such as one made of a transparent plasticized elastic polyvinyl alcohol in a saturated solution of sodium dichromate in water, so there is no printing distortion in spite of the elasticity of the plate. The plate is stretched in one direction to an extent equal to the elongation of the plate surface when it is placed around a printing cylinder, and is photographed, etched, etc., according to known methods. Thereby circumferential elongation, subsequently caused by wrapping a plate around a printing cylinder, is initially compensated for while making the plate so there will be no distortion of printing characters or designs. Invented by Robert G. Chollar, Dayton, O. Assigned to The National Cash Register Co., Dayton, O. Application October 15, 1941. 3 claims.

2,413,898 and 2,413,899. HYDRAULICALLY OPERATED DUMPER FOR GRAINING MACHINES which eliminates any possibility of the marbles, steel balls or other graining elements becoming caught in the trap door of the dumper. Patent 2,413,898 covers the operation of this dumper in connection with a single eccentric grain-in machine while second patent covers only the dumper. Graining tub is carried on a frame, mounted for oscillation on a base, and is pivotally connected at one end so it may be tilted to allow the graining elements to run off through a spout into a convergent inclined tray. Dumper is carried in trunnions and may be rocked by a power cylinder through a crank arm. In raised position the lip of the dumper reaches over end of the tub to pour graining elements into the tub. In lowered position a trap door, hinged at its upper end in the bottom of the dumper, is forced open by engagement with the tub chute to allow graining elements to drain into dumper. The door opening and the plate are beveled to fully close any gap in the door hinge joint, preventing graining elements from getting into joint when dumper is lowered. Invented by Charles Zarkin, New York, N. Y. Unassigned. Applications February 1, 1943 and October 29, 1943 respectively. 1 claim each.

Printing Inks and Related Chemicals

2,412,920. NEW CELLULOSE DERIVATIVE COMPOSITIONS are said to



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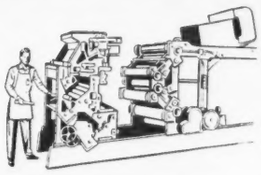
WANTED

Long Runs of 4 to 6 Color

PRINTING



DAY after day, for more than eight consecutive years, Hess & Barker's four to six color rotary printing presses, have with ease and in perfect register, delivered millions and millions of fine printing impressions.

Two Hess & Barker Rotary Presses in one plant operated year after year, without a single breakdown.

And the specially designed teeth in the cylinder and bull gears, after printing all these millions of impressions, are now in perfect condition.

One pressman in the plant when asked, "What do you think of Hess & Barker's press," said: "These babies can really take it."

And they can, because Hess & Barker's press is designed and built to run trouble free.

The oscillating rollers are not synchronized, assuring perfect ink distribution to all the form rollers. That is why you get the very maximum coverage from whatever grade ink is used.

The plate cylinders are made of solid forged steel. That greatly reduces plate fatigue.

The full view ink fountains are micrometer controlled and can easily be adjusted while the press is running.

Hydraulic rewind is automatic maintaining the exact tension on the web at slow or high speeds.

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The entire press is precision built to last a long, long time and 100% hairline register is guaranteed.

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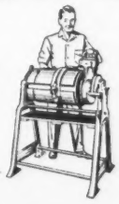

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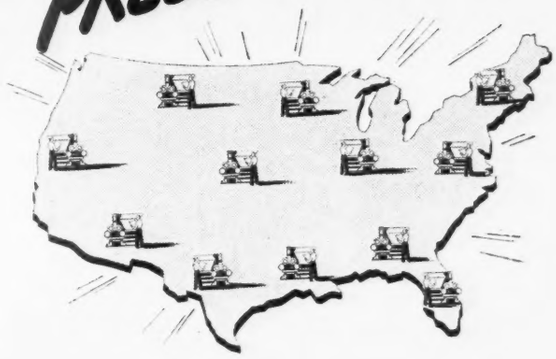

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Out of VULCAN'S unceasing research for finer compounds and new concepts of formulation have come these tangible and measurable improvements:

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be useful in the manufacture of special inks, paper and textile treating compositions, etc. Composition comprizes a cellulose derivative from the group consisting of cellulose formate, acetate, propionate and the like, and, as a plasticizer, a pitch-free hydrocarbon oil boiling above 210°C. Other ingredients, such as drying oils, pigments and driers, may be used as desired. Invented by Frank J. Soday, Swarthmore, Pa. Assigned to The United Gas Improvement Co., Corp. of Pa. Application September 19, 1942. 12 claims.

2,413,259. POLYACRYLIC AND POLYMETHACRYLIC RESINS which are plasticized with high boiling aromatic oils may be used in the preparation of special inks, adhesives, opaque coatings, paper and textile treating agents, etc. The new compositions are made of one of the polyacrylic or polymethacrylic resins and a substantially pitch-free aromatic hydrocarbon oil boiling above 210°C. which was obtained by separation from tar obtained in the vapor phase pyrolysis of petroleum oil and has an aromatic hydrocarbon content of at least 95% and a density of at least 0.95. Pigments and oils may be added as desired. Invented by Frank J. Soday, Swarthmore, Pa. Assigned to The United Gas Improvement Co., Corp. of Pa. Application September 19, 1942. 8 claims.

2,413,320. FILM FORMING EMULSIONS may be used for printing on textiles. An emulsion of a printable consistency contains an insoluble pigment, and has an aqueous phase and a water immiscible phase having no solvent action on the coloring matter. The aqueous phase contains a dispersion of a water dispersible film-forming carbohydrate of the type hydrolyzable by acids to simpler molecular compounds. The emulsion also contains an antimony compound active to convert the water dispersible film-forming carbohydrate to a less soluble form by drying the emulsion on the textile after printing. Invented by Ira L. Griffin, Dave E. Truax, and Norman H. Nuttall, all of Charlotte, N. C. Assigned to Stein, Hall and Co., Inc., New York, N. Y. Application May 14, 1942. 34 claims.

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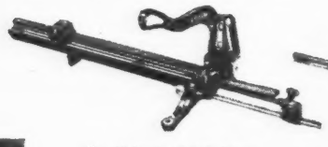
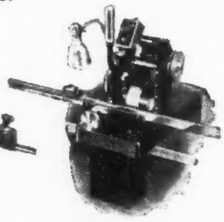
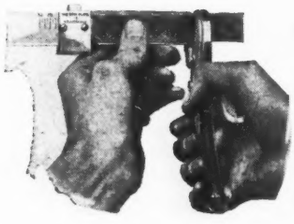


No. 40 Lead and Rule Cutter



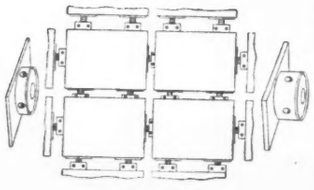
Economy Vertical Miterer



Slug Clippers

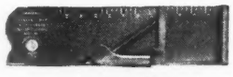
Sennett Positive Assembler

Hand Miterer



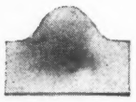
Register Quoins

Newspaper Wall File



Composing Stick

Line Gauge



Make-Up Rule

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2,413,432. MOISTURE-VAPOR PROOF COATINGS FOR PAPER, for printed or lithographed labels, etc., are formed by use of rubber derivative products such as Pliolite compositions of the type disclosed in patent 2,052,391. One example of a label coating contains 73 parts of Pliolite resin power No. 2, 9 parts of paraffin (120° F. S. P.), 4 parts diamylnaphthalene, 14 parts petrex No. 59-71 and 300 parts of gasoline. The first four ingredients are mixed by milling and are dissolved in the gasoline. Invented by Clarence M. Carson, Cuyahoga Falls, O. Assigned to Wingfoot, Corp., Akron, O. Application July 28, 1943. 2 claims.

2,413,697. RESINOUS COMPOSITIONS, clear or colored, which are useful as protective and decorative coatings for paper, leather, etc. One example is a reaction product obtained by heating simultaneously, between 90° and 120° C., a linear polyamide forming composition comprising a primary diamine-dicarboxylic salt, a monohydric alcohol, formaldehyde, and material selected from the group consisting of urea, guanidine and an amino triazine. Invented by Donald E. Edgar, Philadelphia, Pa. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application August 28, 1941. 9 claims.

2,413,755. CONDENSATION PRODUCT OF AMMELINES WITH ALKYLENE OXIDES is useful in the formulation of printing inks. Compounds are prepared by reacting a triazine, substituted or unsubstituted, with a compound containing an ethylene oxide ring. Reaction may be accelerated by using a temperature of 150° to 300° C. and a suitable organic or inorganic base, preferably an alkali-metal or alkaline earth metal hydroxide, such as sodium hydroxide, potassium hydroxide, etc. Usually reaction is exothermic. Product is filtered, washed and dried on a steam bath. Invented by Walter P. Ericks, Buffalo, N. Y. Assigned to American Cyanamid Co., New York, N. Y. Original application January 17, 1941, divided and this application December 24, 1943. 6 claims.

2,414,018. CYCLICIZED RUBBER DERIVATIVE may be used to coat paper as well as for laminating foils such as Pliofilm, cellophane, or the like. Rubber derivative is Pliolite and has admixed therewith a small amount of N-N'-di-o-methyl cyclohexyl piperazine, the whole being suspended in a saturated hydrocarbon solvent. Invented by Clarence M. Carson, Cuyahoga

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is made of a specially selected mixture of close-grained iron, accurately machined to absolute point measures. All edges are beveled to a ***"Velvet Edge"*** to prevent denting or chipping and cutting of fingers. They are lightweight, but with stiffening ribs in each piece for added strength and to provide finger hold for rapid handling. Figures on both sides show pica sizes.

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THE CHALLENGE MACHINERY COMPANY
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GRAND HAVEN — MICHIGAN

Falls, O. Assigned to Wingfoot Corp., Akron, O. Application July 28, 1943. 2 claims.

Printing Presses and Equipment

2,413,174. STEREOTYPE PLATE CYLINDER FOR A ROTARY PRINTING PRESS on which there is a resilient circumferential tension exerted on the trailing edge of the plate while a torsion shaft which extends longitudinally of the plate cylinder exerts a force on the plate against the pull of resilient means. This obviates deforming or cracking of the plate or displacement of the plate due to centrifugal force. The torsion shaft is provided with outwardly extending hooks for engaging the leading edge of the plate. When shaft is not under torsion, hooks are progressively displaced from axial alignment to such an extent that torsional deflection of shaft with hooks engaging the plate brings the hooks into axial alignment. Invented by Curtis S. Crafts and Charles Alonzo Harless, Oak Park, Ill. Assigned to The Goss Printing Press Co., Chicago, Ill. Application December 2, 1943. 19 claims.

2,413,553 and 2,413,554. SHEET CUTTING AND CREASING PRESS in which the sheet handling carriage is reciprocated and arranged for feeding a new sheet into the press on one stroke of the carriage and simultaneously delivering the preceding cut and creased sheet. Press comprises a cutting die and its coacting plate, a reciprocating carriage, a vertically movable driving connection with a rack for raising and lowering the carriage as it reciprocates, grippers at the rear end of the carriage which feed a new sheet forward and lower it on the die, and suction devices on the carriage. Suction devices operate during the stroke of the carriage to lift the preceding cut and creased sheet from the die, convey it forward and deliver it from the press. Patent 2,413,554 is on the method, used with the above press, of feeding a sheet to the die and simultaneously exerting suction on the preceding sheet and removing it from the die and then holding the successive sheets on the die by suction during the cutting and creasing operation. Invented by Arthur J. Evers, Brooklyn, N. Y. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Original application November 4, 1943 (first patent), divided and this application December 21, 1945. 19 and 2 claims respectively.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D. C.

Paul A. Bennett, in charge of typographic layout with the Linotype Co., gave an illustrated talk on "Type Design" before members of the House Magazine Institute in New York, N. Y., recently. Mr. Bennett spoke also at a social evening of the American Institute of Graphic Arts. The occasion was an informal exhibition of the work of Joseph Blumenthal and the Spiral Press, which was observing its twentieth anniversary.

Jack O'Keefe of St. Louis has joined the Linotype organization and is now covering Missouri and southern Illinois as a production engineer. Mr. O'Keeffe served his printing apprenticeship on a semi-weekly newspaper, worked in commercial printing plants and put in several years on St. Louis dailies. Later, for several years, he represented a press manufacturer in Missouri. He served as an instructor in the Air Corps for three years. His headquarters are in St. Louis.

Discussion

(Continued from Page 29)

vibrator cylinder, and two cloth-covered dampener rolls. Regulation of the flow of water to the plate may be secured by various means, such as controlling the rate of ductor operations, length of dwell of ductor on the water roll, and speed of rotation of the fountain roll.

It would appear that this system being considerably less complex than the ink distribution mechanism should function

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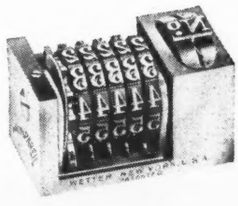

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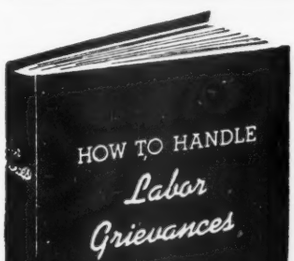

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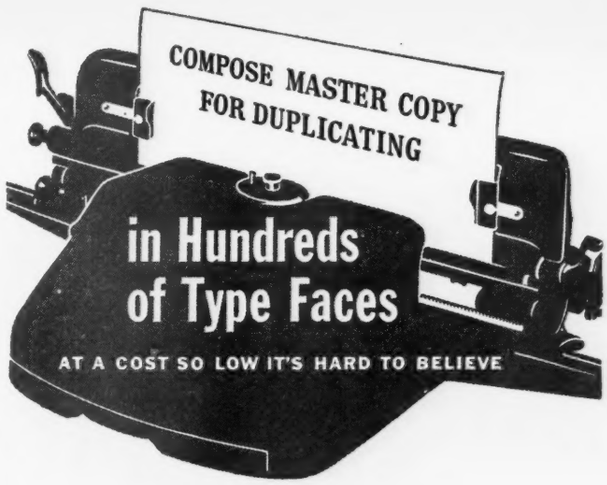

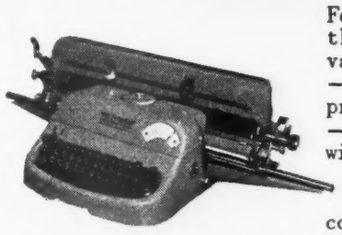

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quite as satisfactorily. In spite of the apparent simplicity of the present system, many attempts have been made to develop a better method.

Among these attempts to improve upon the conventional method, we may mention three:

In one instance, it was considered possible to pump a brine solution through the plate cylinder and refrigerate the cylinder to the extent that water vapor in the pressroom atmosphere would condense on the plate and supply the necessary moisture, much the same as moisture condenses on the cold surface of a window during the winter.

This idea of securing the required water from the atmosphere of the room is not a new one, as it has been used for many years in printing in the collotype or photo-gelatine process.

The photo-gelatine process depends, as does the offset process, on a balance of ink and water on the plate to define the printing areas. However, this process differs from the conventional offset process in that the entire plate surface is coated with a layer of gelatine treated with glycerin. Those portions of the plate which have been tanned to the greatest extent by the action of light through the negative in the photo-composing machine accept the least amount of glycerin and consequently the least moisture from the atmosphere, while the untanned portions accept the greatest amount, and therefore are more ink repellent.

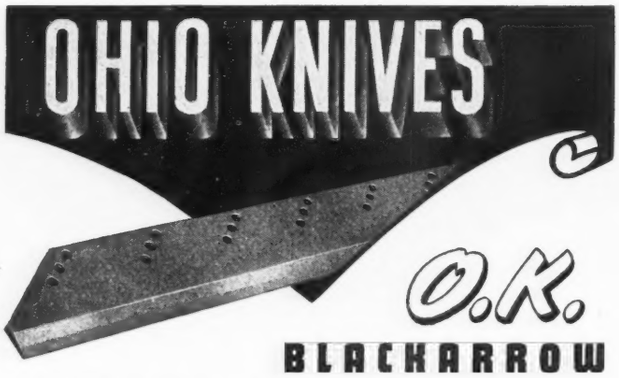
A most essential difference in the water requirements of the photo-gelatine process as compared with the offset process is that only pure water is needed on a photo-gelatine plate, while the offset plate must have an acid solution with a pH value of approximately 4.8 to keep the non-printing areas clean.

Because any moisture condensed from the air is substantially pure water, it is obvious that this moisture will not long satisfy the requirements of the offset process, and this fact is therefore an obstacle to the use of refrigerated plate cylinders. It is interesting to note in this connection that stainless steel plates rather than plates of zinc or aluminum have apparently been operated for long periods with plain water solutions, a condition which is possible because of their high resistance to oxidation. It would, therefore, appear as if they might be more practical for use in a system which secures its required moisture from the atmosphere than a plate of zinc or aluminum.

The problem of obtaining the chemically correct solution from the air is not, however, the only one to be solved in connection with the use of refrigerated cylinders. A further difficulty is encountered due to the mass of the cylinder itself. Although the strength required of a plate cylinder for an offset press is substantially less than that needed for a letterpress with its higher printing pressures, the requirements are still of a very substantial nature.

The considerable mass of steel in an offset plate cylinder requires a fairly long time to cool to a given temperature and once that temperature has been attained, it will remain at a low point for some time after the cooling medium has been turned off. This condition means that the plate cylinder will continue to condense water vapor from the air for a considerable period after the press has stopped, with the result that an excessive amount of water collects and must be disposed of.

Another attempt to eliminate the conventional water fountain, which was even less practical than the use of a refrigerated press cylinder, was assayed in an eastern plant. In this case, recognizing the difficulties with the refrigerated cylinder, it was decided to retain the water form rollers, but treat them in such manner that they would absorb the necessary moisture from the air, and eliminate the need for the remainder of the water system. The experimenter being acquainted with the fact that calcium chloride is a deliquescent material, and is often sprinkled on dusty roads to absorb moisture and eliminate dust, reasoned that this substance would in the same manner keep the form rollers dampened. Accordingly, a liberal amount of calcium chloride was packed under the roller coverings. Not only did this have a most undesirable effect on the printing qualities of the plate, but as in the case of the refrigerated cylinder, it soon became apparent that there was no way to turn off



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The projected 5,010 casts for early 40 page and later 52 page editions of THE TRIBUNE compared with the 3,790 casts made for a 40 page TRIBUNE in the 1944 off-year election. However, today a normal daily casting averages about 4,000, Supt. Brown said.
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Flying or Spraying

Abstract from address delivered by G. L. Erikson, Executive Vice President, Braden-Sutphin Ink Co., Cleveland, before convention of the Intl. Association of Printing House Craftsmen, Montreal, Can., September 1946.

FLYING or spraying is generally caused by rough edges on the ends of rollers on high speed commercial presses, and may also be caused by badly cracked rollers. The cure is to replace old rollers, or make the ink shorter in body.

the water. This excess of water being saturated with calcium chloride very shortly gave the press much the same appearance as if it had been liberally sprayed with sea water and allowed to rust.

In addition to efforts to secure a supply of water from the air, numerous proposals have been made along the line of spraying or blowing an atomized solution on the plate itself. While this may, at first glance, appear to be a rather simple solution to the problem, there are a number of difficulties to be overcome. Not the least of these is the necessity of insuring an even distribution of the atomized fluid over the entire surface of the cylinder in a predetermined quantity. In addition to securing an even distribution, the vapor must be so confined that an excess is not allowed to escape from around the distributing point and be free to reach other parts of the press. By the time all of the requirements have been met, it is apparent that a rather complex piece of mechanism is necessary, which although it eliminates the conventional distribution system, will have numerous operating problems of its own.

The problem of establishing and maintaining the requisite water supply is more serious on a web-fed press as they are designed at the present time, than on a sheet fed machine. In view of the increased use of web-fed offset equipment, it appears desirable that more attention be given to this problem in an effort to alleviate some of the difficulties.

The major difference between sheet-fed and web-fed machines as far as this analysis is concerned lies in the fact that the sheet-fed machine can be easily operated with no paper passing through. In this case the press can be started, and the ink and water fairly well distributed before any stock is run. With a web fed machine a considerable amount of paper may be wasted in adjusting the fountains, because as a general rule the fountains cannot be operated independently of the printing cylinders and web feed. Some machines, even of the sheet-fed type are equipped with independent inking-up drives which allow the ink to be worked up without operating the rest of the press. This is of considerable assistance in the case of sheet-fed presses, and the same principle if applied to web-fed machines on both the water and ink fountains would be of material aid in reducing waste stock.

As mentioned above, a sheet-fed press can be operated at the desired running speed, and a few sheets fed through to determine the register of colors and quality of the print, without much paper being wasted. On web machines, however, it is most practical to make adjustments for register and alignment of the web while the press is in motion. If these adjustments are performed while the press is operating at top speed, there is considerable danger of running a large volume of unsalable product through the unit before satisfactory printing is secured. This is especially true in a multi-color press, which may be equipped with attachments to perform various finishing operations in addition to printing, and which cannot be adjusted while the machine is at rest.

Accordingly, it is common practice in order to conserve paper, to operate the web press at a fairly low speed while the various adjustments are being made, and then put it up to speed for the production run. Such a procedure can be followed without too much difficulty on a letterpress machine because a well designed letterpress will operate over a considerable speed range without an excessive variation in the quality of work being produced.

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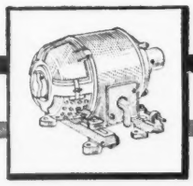

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Bleeding

Abstract from address delivered by G. L. Erikson, Executive Vice President, Braden-Sutphin Ink Co., Cleveland, before convention of the International Association of Printing House Craftsmen, Montreal, Canada, September 1946.

UNDER this heading I refer to color bleeding which may take place when spirit varnishing, lacquering, or laminating sheets. This is definitely the ink makers problem, as nothing much can be done about it in the pressroom.

You will be interested in two cases which came to my attention and the solutions which proved satisfactory.

A beautifully printed halftone black sheet of auto parts was produced for a use in stock rooms. These were mounted on heavy cards and as an after thought, it was decided to laminate cellophane on the face of the card so that they would be more serviceable.

A test was made of a dozen sheets which proved very satisfactory, but when the entire run of about three-thousand cards was laminated, the toner of the black bled, so that the halftones were a beautiful purple, but the customer wanted to show gray castings.

It so happens that, the portion of the toner which bleeds in the laminating solvent is very fugitive to light, and it was possible to bleach out all of the purple bleed by simply laying out the cards on the flat roof of the print shop, under the clear June sun for about one hour. Needless to say, all concerned were very happy.

Another "bleeding" headache was brought to my attention by a banknote printer. Here it is customary to first print instructions and information in black on the reverse side of the bonds, after which they are dampened by interleaving with damp cloths, for the plate printing operations on the face of the bond.

In this case a delay of several days took place after the first colors were printed on the face, and this long exposure to the moisture caused the toner in the black ink to bleed through the bond, so that a reverse image of the back printing, in a light purple color, was plainly visible on the face of the bond.

This job was saved by taking advantage of the same fact of the fugitive quality of the bleed, but sunlight was impractical for a 50,000 run. However, a 30 second dip in a carefully controlled bath of chlorine water, not only bleached out all of the bleed, but actually strengthened the sheet, without affecting the other colors of the printed job.

The water distribution system on a high speed web-fed offset press, however, is often a source of trouble when the speed of the press is altered materially, as it is when shifting from setup speed to running speed.

The reason for the difficulty rests with the fact that the cloth-covered rollers in the distribution system, especially the form rollers, are storage reservoirs for the water solution.

To obtain satisfactory printing a certain amount of water must be transferred from the rollers to the plate. When the fountain is adjusted for proper printing at low speeds, the mass of the cloth roller coverings is permeated with a definite amount of water, and a point of equilibrium is reached where the water required by the plate and evaporation to the air, is just equaled by the amount of water being fed from the fountain. This condition results in good printing, if the adjustments are properly made.

An increase in speed of the press unfortunately results in an excess of water being supplied to the plate, because with the form rollers revolving at a greater rate, centrifugal force tends to spin out the water contained in the cloth roller coverings. An unbalanced condition of ink and water will thus exist until the moisture in the coverings again reaches a state of equilibrium suitable to the higher speed. Conversely, if the speed is reduced materially at some point during the run, the effect of centrifugal force on the water content of the roller coverings will be lessened, and water from the fountain instead of reaching the plate will be absorbed by the cloth coverings until equilibrium is again reached. In this case, there will be a deficiency of water for some period of time.

Although the undesirable effects of variation in centrifugal force on the water contained in the form rollers probably cannot be eliminated, the press designer can take certain precautions to alleviate this condition. The two most obvious steps are to reduce the amount of moisture stored in the roller coverings, and to design the rollers themselves in such a manner that the effects of centrifugal force due to speed changes will be lessened.

In order to reduce the amount of moisture contained in the body of the cloth covering, the covering should be made as thin as practical. Especially on the older offset presses two coverings are often used, a dampener base, and cover over the base. When running at a steady speed this double covering, which contains a considerable amount of cloth is satisfactory because the larger amount of moisture contained in the composite cover provides a very stable source of water for the plate, and is not greatly affected by temporary fluctuations in the water supply. However, two covers are more costly to apply than one, and they also have a greater tendency to become "baggy" after a relatively short period of operation. The present trend is to use only a single cover on the rollers,

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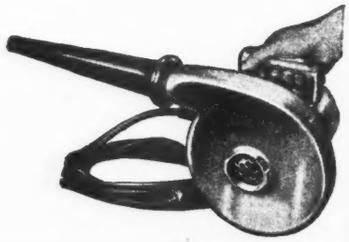

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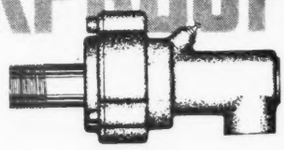

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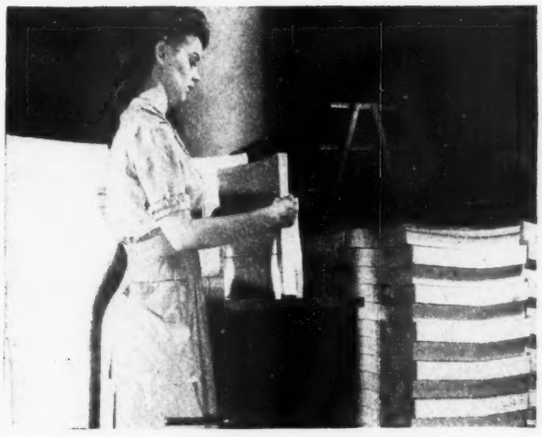

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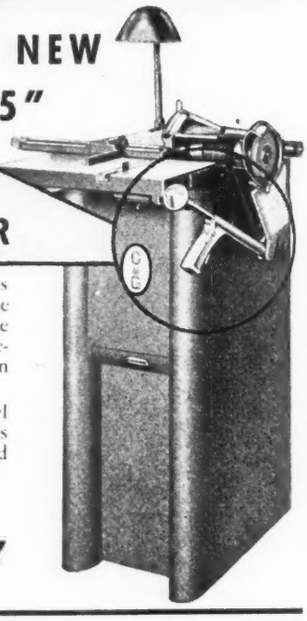

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and in view of the undesirable effects of centrifugal force variation, this single cover should be designed to store a minimum of water in its interior.

In designing water form rollers with the objective of reducing the undesirable effects of centrifugal force variation with speed changes, the designer should keep the following facts in mind.

Centrifugal force varies directly with the radius of the form roll, and also with the square of the revolutions per minute. For this reason it is desirable to design the cloth-covered rollers with as large diameters as possible. Although over a given web speed range, the ratio of the variation in centrifugal force on the roller coverings will be constant regardless of the roller diameter selected, the magnitude of the forces involved is a minimum when larger rollers are utilized. There are, of course, a number of disadvantages to the use of large diameter rollers, among which may be mentioned the greater weight of roller to be handled, the extra labor involved in covering, and the greater space required in the press. Unless a high speed press operating over a considerable range of speed is contemplated these undesirable features may out-weigh the anticipated benefits of large diameter rolls.

The water distributing system also differs from the ink system in another most important respect which has perhaps not been given sufficient consideration.

Ink from the fountain is distributed and utilized at one point only, the printing plate. Water on the other hand is supplied not only to the plate, but to the atmosphere of the pressroom as well, by evaporation from the rollers. This condition means that where the press is stopped for any reason, the supply of moisture in the rollers is continuously depleted. Unless the loss is replenished by some means before the machine is again started, an unbalanced ink and water supply will continue for some time upon the resumption of printing.

When a press is stopped for any appreciable length of time, the operator will often run a damp sponge over the surface of the cloth rolls in an attempt to bring them back to the correct operating condition. This requires a considerable degree of skill on the part of the pressman, and often times the printing is not of top quality for a period of time after the run is continued.

It seems logical to assume that offset press operation, especially on web machines could be made easier if the press designer would recognize the fact that water must be supplied to the atmosphere as well as to the plate. While the machine is in motion, it is a matter of adjustment to provide sufficient fluid for both of these uses. Consideration must therefore be given only to a means for maintaining the rollers with a definite water content when the machine is stopped. This can be done by including a special water fountain drive which will slowly keep the water system in operation while the press is at rest. The speed of this drive should be only sufficient to insure that evaporation losses are made up as they occur, and the press therefore ready at any time for a resumption of the run.

Inasmuch as the evaporation losses are substantially greater on those days when the humidity is low, provision should be made for a fairly wide speed range on this auxiliary drive. The use of an air conditioned pressroom in which it is possible to exercise considerable control over variations in humidity is of material aid in the maintenance of rollers in good condition while the machine is at rest.

The designer of offset equipment can also do much to ease the burden on the press operator by making the water fountain rolls of greater width. In the design of ink distributing systems, it is not necessary to make the ink form rolls of substantially greater width than the plate cylinder printing area. Many designers attempt to specify water form rolls approximately the same as those used for the ink form rolls, with resultant difficulties.

As the water rollers are cloth covered, it is customary practice to draw the covering down around the ends of the body of the stock with a draw string. Thus, at each end of the roller there is a body of cloth which is below the surface of the roll, and which does not have any means of receiving water beyond that which it can draw from the adjacent body of the roller. Furthermore, if a double covering is used on the roller, there is often a tendency for the diameter of the covering to taper down for some distance from the ends due to the pull of the draw string. Both of these factors tend to make the ends of the rollers run drier than the center. This difficulty can be alleviated by making the width of the water distribution rolls somewhat greater than those of the ink distribution system. In this case, the dry ends are removed a safe distance from the edge of the plate, and the troubles caused by tapered roller ends are also eliminated.

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Color Matching Problems . . .

Abstract from address delivered by G. L. Erikson, Executive Vice President, Braden-Sutphin Ink Co., Cleveland, before convention of the Intl. Association of Printing House Craftsmen, Montreal, Can., September 1946.

IN ORDER to do a good job of color matching it is necessary for the color matcher to have more than just a copy for color. Information as to the type of press, pressroom, pressman, plates, etc., as well as a copy of the job to be printed and a sample of the paper, are very necessary.

Complaints on color matching can often be traced to the following conditions over which the ink maker does not have control.

1. A dirty press—this can be checked by comparing a "tap-out" of the ink from the rollers with one made from the ink in the can.
2. The amount of ink carried—too much or too little.
3. Change in the paper surface or change in the color of paper.
4. Press conditions such as make-ready, rollers, or roller setting, which might make it necessary to carry more than a normal film of ink to get coverage.
5. Zinc Plates will generally dirty the color of light tints and no accurate determination of color can be made until several hundred sheets have been run. Often after each press stop, the first dozen sheet or more will be dirtier in color.
6. Ink may change color on sheet after it is heated.
7. Ink may change color in the can after ageing.
8. Color comparisons must be made under exactly the same conditions, of background, lighting, etc., otherwise optical illusions will affect the appearance of colors.

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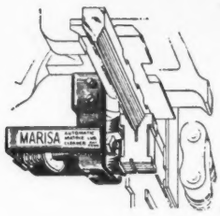

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